SPECIAL EatingWell EDITION

Superfoods

Live Healthier, Longer and Happier

Fight heart disease

Protect against cancer

Boost metabolism

Lower blood pressure

Strengthen your immune system

Lower cholesterol

SPECIAL EatingWell EDITION

Superfoods

Contents

4 **Introduction:** Just What *Is* a Superfood?

CHAPTER ONE

Disease Fighters

12 The Mighty Antioxidant
20 Does a Cancer-Prevention Diet Really Exist?
24 The Power of Citrus

30 **Super Breakfast Recipes**

CHAPTER TWO

Your Healthiest Mealtime

38 10 Everyday Superfoods
42 The Wild World Within
52 8 Superfood Spices and Herbs to Start Eating
56 Simple Superfood Trade-Ups

58 **Super Lunch Recipes**

CHAPTER THREE

A Lifestyle That Lasts

66 In Search of the Anti-Aging Diet
74 Foods for Beautiful Skin
76 The Truth About Health Hype and Superfoods
82 Healthy Food Trends That Stand the Test of Time
84 The Power of Omega-3s

90 **Super Dinner Recipes**

96 **Last Bite:** Snow-White Superfoods

Parts of this special edition were previously published by *EatingWell* and *Cooking Light*.

INTRODUCTION

JUST WHAT *IS* A SUPERFOOD?

The term is used to describe ingredients as different as broccoli and turmeric. What makes foods "super," and should you seek them out?

BY JOYCE HENDLEY

When was the last time the buzz around a new superfood nudged you to put it in your shopping cart? The concept of superfoods may seem positively trendy nowadays, but these healthy ingredients have likely been with us for as long as we've been eating. Take quinoa, the nutritious grain-like seed that's superfood royalty now: it was just as prized long ago in South America, where the Incans ate it as a sacred daily staple and even used it in religious offerings. And new superfoods seem to keep cropping up in our consciousness, from yesterday's pomegranates and kale to today's maqui berries and oat milk.

But what exactly is a superfood?

The term "superfood" has become so widespread that it has an entry in the Merriam-Webster dictionary: "A food (such as salmon, broccoli, or blueberries) that is rich in compounds (such as antioxidants, fiber, or fatty acids) considered beneficial to a person's health."

In truth, though, nutrition experts and scientific authorities don't have an official "superfood" definition. Most argue that it's purely a marketing term, designed to crown the latest "it" food or ingredient and make it go viral, fueling rock-star sales (just look at the growth curve of chia seeds, moringa or acai berries in the past few years for proof). Sales data strongly confirm this: between 2011 and 2017, the number of food and beverage products flagged as being a superfood on

+

BROCCOLINI IS A BIT SWEETER AND MORE TENDER THAN BROCCOLI. IT TASTES DELICIOUS WHEN BROILED QUICKLY.

their labels grew some 200%. And according to research firm Stratistics MRC, the global market for "superfoods" is expected to grow by a healthy 8.5% in the next seven years.

Just as former Supreme Court Justice Potter Stewart once argued that he didn't need a definition of obscenity other than "I know it when I see it," most of us don't need to worry about what "superfood" means. We just need to be able to know it (and eat it) when we see it. It's wise to include more nutrient-dense foods (which all superfoods are) into our regular eating routines: we'll get a healthy boost of nutritional benefits that could help us feel and look better and maybe help prevent some health problems. But, indeed, some foods are more nutrient-dense than others and have earned a callout.

Think of superfoods as multitaskers—foods that offer plenty of disease-fighting nutrients in a delicious package. (Flavor and pleasure are important parts of that package; no food can be truly super if you have to force yourself to eat it or don't eat it at all.) And while it's fun to try something new and trendy, know that there are plenty of everyday superfoods that have always been around—and don't need an Instagram campaign or a hefty price tag to give them super status.

Superfoods can also be good sources of probiotic ("friendly") bacteria that help colonize the gastrointestinal tract.

Most important, keep in mind that superfoods are only one piece of a varied diet. Just as sprinkling goji berries on a doughnut doesn't make it a health food, no single superfood can make a poor eating pattern healthy. There may be some star players on a healthy-eating team, but they can work only if they're part of a group.

SO RATHER THAN SINGLING OUT THE LATEST superfood superstars, let's take a deeper dive into what puts the "super" in superfoods. Above all, superfoods are nutrient dense, offering a wide range of beneficial compounds, including vitamins, minerals, protein, healthy fats, good-quality carbohydrates and fiber. Some are especially prized for providing nutrients that are typically lacking in average diets or are hard to find in other foods. Salmon and swordfish, for example, are some of the few food sources that are naturally rich in vitamin D.

Many so-called superfoods have an abundance of antioxidant compounds, such as vitamins A, C and E; minerals like selenium and manganese; and plant antioxidants, such as flavonoids, flavones, catechins and polyphenols. Antioxidants help protect cells against oxidation damage and may play a role in preventing or managing conditions in which inflammation is involved, such as heart disease, diabetes and some types of cancers.

Superfoods can also be good sources of probiotic ("friendly") bacteria that help colonize the gastrointestinal tract and promote a healthy microbiome. Others may offer *pre*biotics—dietary fibers that feed those friendly gut bacteria. Both probiotics and prebiotics help support better digestive health—and science is beginning to uncover the value of a healthy microbiome in managing inflammation and autoimmune-related diseases, among other conditions.

When it comes to choosing healthy foods, superfoods just check off more boxes. Their natural nutrition bounty elevates them beyond any mere eating fad: they're delicious, wholesome components of a healthy way to eat.

For sheer nutrient abundance, dark-green leafy vegetables, such as kale, collard greens, spinach and chard, top the scales with an embarrassment of riches. They're excellent sources of folate (think "foliage"), calcium, magnesium, fiber and vitamins A, C and K, and they're rich in disease-fighting antioxidants—all while being amazingly low in calories (on average, about 16 calories per cup, cooked). No wonder people who regularly eat them tend to have lower rates of heart disease, diabetes and other chronic diseases.

Another category of multitasking, high-nutrient foods are cruciferous vegetables, including broccoli, cauliflower, cabbage, collard greens (again!), Brussels sprouts and turnips, which are also low in calories and high in fiber, as well as high in folate and vitamins C, E and K. In addition, crucifers contain glucosinolate compounds, such as indoles and isothiocyanates, which may have cancer-fighting effects.

Likewise, orange-yellow vegetables and fruits—from winter squash, sweet potatoes and carrots to mangoes, cantaloupe and apricots—often top lists of superfoods. They get their deep coloring from carotenoids, antioxidant pigments that are associated with lower rates of certain cancers and can help keep our eyes, bones and immune system healthy. These deeply colored fruits and vegetables are also great sources of fiber and key vitamins and minerals.

Colorful and delicious berries, such as blueberries, strawberries, cranberries and raspberries (and, yes, trendy acai, maqui and goji berries), tend to be nutrient-and-fiber powerhouses, too, with high antioxidant and anti-inflammatory activity. People who eat berries regularly may have a lower risk of heart disease, cancer and other inflammation-related problems.

Legumes like beans and peas are also confirmed superfoods with multitasking abilities. They are great sources of plant-based protein—but consider it "protein with benefits": they're rich in key nutrients like iron, potassium, zinc and folate. And an abundance of fiber—both the heart-healthy soluble type and the digestion-friendly insoluble type—make legumes especially filling, with long-lasting satiety that can help with weight management. Research shows that when people with diabetes eat legumes regularly, they tend to have better blood-sugar control and lower rates of heart disease.

Eggs are another superfood—perhaps nature's original one. After all, they contain all the nutrients needed to support a growing chick. An excellent protein source (they score close to a perfect 100 in biological value, a key measure of protein quality), eggs are also rich in choline, which is needed for brain health, and the eye-health-promoting carotenoids lutein and zeaxanthin, which can help reduce the risk of macular degeneration.

No discussion of superfoods should omit

+

RESEARCH HAS SHOWN THAT EATING MORE WALNUTS AND FLAXSEED OIL DECREASES THE RATE OF BONE BREAKDOWN.

fatty fish, including salmon, mackerel and tuna. They're abundant in omega-3 fatty acids that help support brain and eye health. They may also play a role in reducing heart attacks and strokes, which tend to be fewer in regular fish eaters. In addition, they're a good natural source of vitamin D, a heart-healthy nutrient many of us need more of. Make sure your "light" tuna comes from skipjack, which is lower in mercury.

Lately, the health community has recognized the importance of another food category that shows great superfood potential: fermented foods, such as yogurt, kefir, kombucha, sauerkraut and kimchi. They contain probiotic bacteria that help promote healthy digestion and overall gut health—and science is starting to show their promise in the prevention and management of inflammation-related diseases. Fermented dairy products like yogurt and kefir are excellent sources of calcium, too, and because they contain bacteria that break down lactose, they can often be enjoyed by people who can't tolerate lactose in other dairy foods.

Also qualifying as superfoods—and especially important as the foundation of many eating patterns—are whole grains, such as whole wheat, brown rice, barley, oats, millet, teff and (of course) quinoa. As high-quality carbohydrates, they are a key energy source for the body. With both their nutrient-rich germ and their fiber-rich outer bran layers intact, they're good sources of fiber, vitamin E and key minerals like magnesium, selenium and zinc.

Nuts and seeds are also nutrition multitaskers worthy of the superfood moniker. They're rich sources of heart-healthy polyunsaturated fats, magnesium and vitamin E, as well as inflammation-fighting antioxidant compounds like ellagic acid and resveratrol. Plus, they're good sources of fiber, including prebiotic compounds that nourish "good" probiotic bacteria and support gut health. And despite nuts' high-calorie content and reputation for being fattening, studies show that regular nut eaters aren't more overweight than non–nut eaters.

Teas, especially green tea, are worth considering as superfoods. While any tea is a good source of heart-healthy antioxidant polyphenols, green tea is brimming with one in particular—epigallocatechin gallate (EGCG), a powerful anti-inflammatory compound. Green-tea drinking is associated with lower rates of heart disease, diabetes and some cancers, likely due in part to its EGCG content.

Lastly, while they're not exactly eaten as foods but added to them, spices and seasonings have long been consumed in some cultures for their medicinal benefits as much as their flavoring power—and some seem well-suited to superfood status. For example, ginger and turmeric—both used in Ayurvedic and traditional Chinese medicine—are antioxidant-rich, and they're currently being studied for their potential for treating pain and inflammation. In addition, ginger is a proven nausea reliever. Garlic has been shown to help lower cholesterol and blood pressure, and it contains sulfur compounds that may even play a role in preventing some cancers.

YOU CAN PROBABLY THINK of at least a few more foods that deserve superfood status. Indeed, superfoods are found across many food categories, but what they all have in common is their ability to deliver an abundance of nutrients.

Spices and seasonings have long been consumed in some cultures for their medicinal benefits as much as their flavoring power.

You don't have to spend a fortune on the latest, buzziest ingredients to give your eating style a superfood upgrade. Give a trendy superfood an occasional try if you're curious, but a better strategy is to make it a habit to dig into ordinary "everyday superfoods." Learn how to select, prepare and enjoy them, and appreciate them in the company of other delicious foods that nourish you. Most important, avoid eating just superfoods. No matter how nutritious they are, they weren't meant to be exclusive foodstuffs.

The very best way to enjoy superfoods, then, is to stop thinking about superstars. Instead, incorporate nutritious foods into a "super pattern," a varied way of eating that you can sustain for life. We think you'll find the experience super-delicious. ●

CHAPTER 1

DISEASE FIGHTERS

These nutrient-packed foods can help stave off illnesses and ailments ranging from the common cold to heart disease.

THE MIGHTY ANTIOXIDANT

How eating the right superfoods can strengthen your immune system and bolster your defenses against colds, flu and even diseases.

BY HOLLY PEVZNER

Antioxidants are like immunity superheroes. We all know that they're here to do good, to battle unknown villains in our bodies, to bolster our health and to help stave off illness. But like myriad masked and caped crusaders in comic books, antioxidants and their disease-battling ways are shrouded in mystery. What exactly are antioxidants, anyway? Are they just amped-up vitamins? And do they really keep colds, flu and even colossal villains like diabetes and cancer at bay? It's a riddle worth solving. "Antioxidants are critical for all aspects of our health," says Susan Blum, M.D., an assistant clinical professor of preventive medicine at the Icahn School of Medicine at Mount Sinai and the author of *The Immune System Recovery Plan*. "Without adequate nutrients, including antioxidants, the immune system simply won't function properly." Essentially, antioxidants are the kryptonite that the immune system needs to quash the bad guys.

The Dynamic Duo

The immune system is in charge of defending us against sickness and disease, but it can't do it alone. First, we've got our immune cells hiding in various hubs throughout the body, like inside the lymph nodes on either side of the neck. When healthy, those immune cells lie in wait, ready to ward off any enemies. "When an invader, like a virus, bacteria or toxin, comes in, those immune cells start to battle it out," says Blum. (All the clashing, if you will, is why glands swell when we've got a sore throat.) But those immune cells don't amount to much without antioxidants.

More or less, an antioxidant is a chemical

property that's ready to prevent, fight and repair immune-cell damage caused during battle. (Antioxidants are a class of substances, so they can be a vitamin, a mineral or something else.) "If our immune cells don't have enough antioxidants, they won't be able to recover," says Desiree Nielsen, R.D., the author of *Eat More Plants*. "We'll be at an increased susceptibility to infection, wound healing will take longer, and your energy levels will decrease." Low levels of antioxidants can even directly diminish one's ability to bounce back after health events, such as an infection, a fall or surgery, according to a 2019 study of folks 50 and older in the *Journal of the American Medical Directors Association*.

Battling Oxidative Stress

Antioxidants not only prevent, fight and repair cell damage, they also act as cells' main custodians. Every day, our bodies crank out about 4 million free radicals. "You, me, the healthiest people, everyone makes free radicals," says Blum. This is a natural, normal part of converting food to energy (aka the metabolic process). In the simplest terms, free radicals are waste products of our metabolism, and antioxidants are the sponges, mopping up the mess. "Every day, we make free radicals and clean them up, make free radicals and clean them up, and so on. We're built to be able to properly maintain the balance between antioxidants and free radicals," says Blum. But for the majority of us who fall short on the antioxidant front, the cleanup can't keep up with the mess. And that imbalance can cause big trouble.

Women who consume the most antioxidants had a 27% lower risk of type 2 diabetes than those who ate the least.

"Free radicals contain an unpaired electron, and electrons don't like to be single. They become unstable," says Nielsen. When not naturally cleaned up by antioxidants, these toxic bachelors, so to speak, can go on to cause a whole lot of damage looking for a mate, throwing elbows at cells, tissue, enzymes and DNA. "When the damage, called oxidative stress, keeps occurring, our immune system attempts to repair it, which can lead to a chronic inflammatory response," explains Nielsen. It's a disease domino effect: a shortage of antioxidants leads to an abundance of free radicals, which leads to oxidative stress, which then leads to inflammation and a dysregulated immune system. A 2011 study in the journal *Food and Bioproducts Processing* noted that our vast lack of antioxidants expedites the development of cancer and other big-hitter diseases, including cardiovascular, neurodegenerative, inflammatory and Alzheimer's diseases. Of course, boosting antioxidant intake won't eliminate all or any of these conditions altogether, but it would certainly help drive them back and ease their severity.

The Power of Protection

A 2018 report in the *Journal of Nutrition & Food Sciences* clearly states that consuming an antioxidant-rich diet directly impacts longevity by way of maintaining the health of your heart, brain, lungs and other organs. More specifically, another 2018 study, this one in the *American Journal of Clinical Nutrition*, found that a high dietary intake of antioxidants, including vitamin C and carotenoids, was associated with a reduced risk of cardiovascular disease, total cancer and all-cause mortality. (Dietary, by the way, means via food, not supplements.) Antioxidants even have an impact on ALS (aka Lou Gehrig's disease), a devastating neurodegenerative disorder. Research in *JAMA Neurology* found that consuming fruits and vegetables that are high in antioxidants can slow the progression of the disease.

Then there's the extensive research on antioxidants and diabetes. The latest: women who consume the most antioxidants had a 27% lower risk of type 2 diabetes than those who ate the least, according to a 2018 study in the journal *Diabetologia*. That held true regardless of other risk factors, such as smoking, cholesterol levels and BMI. And that's why folks at Geisinger Health System in Pennsylvania started the Fresh Food Farmacy, where patients with type 2 diabetes receive free healthy, antioxidant-rich groceries every week, not meds. "We know that antioxidants help prevent or slow damage to the cells in our body, and that's why we give our patients up to 10 different fruits and vegetables each week

SHOW OFF THE RAINBOW OF NUTRIENT-DENSE VEGETABLES AND THEN SLOW-ROAST THEM IN THE OVEN UNTIL THEY START TO BROWN ON TOP.

STONE FRUITS
ARE FILLED
WITH VITAMIN C
AND HEALTHY
PHYTOCHEMICALS.

to help reduce their risk for chronic diseases," notes Allison Hess, the vice president of health for Geisinger Steele Institute for Health Innovation. And it's working: data from 200 patients showed that proper nutrition, paired with support and education, garnered an average 2-point drop in levels of HbA1c, which is a marker for determining how well diabetes is controlled. (On average, common diabetes meds help lower a patient's HbA1c by just 0.5 to 1 point.) If all of this health help is in our reach, why aren't we taking advantage?

Why We're Falling Short

"The amount of antioxidants you need at any given time can shift," says Blum. "It's all about the net." Just as with dollars, the net of antioxidants is what's left after all deductions have been made. Exposure to chemicals, mold or cigarette smoke? Deduction. Got a cold? Deduction. Dealing with a chronic infection or illness? Deduction, deduction. Gut issues are a big problem too. "People who have an overgrowth of bacteria, an imbalance of microbes in the gut or other gastrointestinal problems often experience malabsorption of nutrients, including antioxidants," says Blum. This means that you very well might be eating like you think you should but not reaping all the benefits.

"Taking certain medications, such as acid blockers, and simply aging can also interfere with the absorption of antioxidants," says Elizabeth W. Boham, M.D., R.D., a functional and integrative medicine specialist and the medical director of the UltraWellness Center in Lenox, Massachusetts. "People in their 70s or even younger naturally don't absorb and utilize as many antioxidants as they used to—and this comes at a time when their nutrient requirements actually increase."

Our immune health suffers not just by what we eat, but also by what we don't eat. "It's actually two separate but connected issues," says Boham. First, the typical American eats too many processed, low-fiber, refined foods, which is taxing on the system. "It causes things like blood sugar to spike and inflammation. And that triggers oxidative stress," says Boham. (Remember, oxidative stress is an imbalance between free radicals and antioxidants. And over time this can interfere with how well our cells and tissues function.) Oxidative stress is mitigated with an antioxidant-rich diet. And that's our second—and perhaps most pressing—issue: "We are severely lacking in our consumption of fresh whole foods, which are our best source of antioxidants—not supplements," says Nielsen.

However, supplements are what many people rely on to get their (paltry) fix: a 2011 survey in the *British Journal of Nutrition* found that dietary supplements are the second main source of antioxidants in the U.S. "While I've definitely advised some patients to take a supplement that contains a specific antioxidant, we need to understand that when you isolate an antioxidant in pill form, you miss out on all of the other benefits of the food," says Boham. "There are so many things in our plant food that we don't know or even appreciate, yet all of which could play a role in our immune health." Plus, increasing the intake of antioxidant-rich superfoods such as fruits and vegetables—not antioxidant supplements—is what tamps down one's risk of chronic disease, finds the *American Journal of Clinical Nutrition* study mentioned earlier.

Eating a balanced diet packed with a variety of antioxidant-rich plant foods would be enough to counter most free-radical damage.

Defend with Superfoods

While there is no recommended daily allowance for antioxidants, many experts, including Boham, believe that for most healthy adults, eating a balanced diet packed with a variety of antioxidant-rich plant foods, like fruits, vegetables, nuts, seeds and herbs, would be enough to counter most free-radical damage. Boham suggests 8 to 13 servings of these superfood plants a day to get to optimal. (A serving, for example, could be a cup of green tea, a teaspoon of basil or ½ cup of cooked spinach.) If that seems overwhelming, simply follow Nielsen's lead of making sure that half your plate is covered in plants, like fruits and vegetables. "I don't mean meal to meal. I mean plate to plate, so every time you eat," she says.

And, yes, among the plant masses there are some antioxidant standouts. "All kinds of berries, leafy greens and cruciferous vegetables are

antioxidant-rich and often considered superfoods," says Nielsen. This is not only because they contain great quantities of antioxidants, but also because there's been so much research on these specific foods to better understand their impact on health. "All of these foods are great places to start when trying to get more antioxidants into your everyday," says Boham. So go ahead and pile on the blueberries. Eat more spinach. (A 2011 report in the *European Journal of Nutrition* found that even a moderate consumption of 1 cup of spinach a day protected against damage caused by oxidative stress.) Add broccoli, Brussels sprouts and kale into the fold. (The American Institute for Cancer Research notes that cruciferous veggies may limit the production of cancer-related hormones and prevent tumor growth.) But don't stop there.

When experts tout variety, they mean it: seek out different foods in different colors to fill your grocery cart week to week or season to season. (Love orange carrots? Try purple next week.) A food's pigment is one of the easiest ways to discern at least some of its antioxidant properties. For instance, red and blue plants like beets and berries show that your food is rich in anthocyanin, an antioxidant that's been proven to lower LDL cholesterol levels and blood pressure and therefore reduce one's risk for heart disease. The oranges and yellows of carrots, sweet potatoes, bell peppers and more signal that carotene is onboard. Research shows that consuming plenty of carotene-rich fruits and vegetables may significantly reduce the risk of some chronic diseases, including cancer and cardiovascular disease, as well as eye-related conditions.

Seek out foods of different colors. A food's pigment is one of the easiest ways to discern at least some of its antioxidant properties.

"Eating a variety of plants not only ensures you'll obtain different antioxidants, it ensures that you've got the full arsenal working for you," says Nielsen, who notes that nuts and seeds always seem to fall off the antioxidant go-to list. "Just ¼ cup daily would be impactful," she says. Another antioxidant oversight, perhaps to do with their less-than-rainbow-like appearance: garlic, onions and mushrooms. "They help the body make glutathione, which is one of the strongest antioxidants we have," says Boham.

Take It to the Next Level

There are subtle ways you can go about pumping up your antioxidant intake. First is the add-in strategy. If you're already making a salad or roasting broccoli or seasoning your dinner, simply incorporate another antioxidant-packed superfood element. Sprinkle in nuts, roast garlic too, and toss a handful of thyme into your already simmering stew. Another add-in: healthy fats. "Always have a source of healthy fat at a meal, such as extra-virgin olive oil, nut butters or avocado," says Nielsen. "Many antioxidants are fat-soluble, meaning you need the fat to better absorb the antioxidant." You can also make swaps. Trade your second cup of coffee for another antioxidant-rich caffeinated beverage: tea. "Green tea especially," says Nielsen. "Tannins, a type of antioxidant in tea, are superb at fighting inflammation and combating oxidative damage."

Finally, eat both cooked and raw foods. "Some antioxidants, such as vitamin C, are best preserved in fresh form, while others, like lycopene, are best absorbed when cooked," says Nielsen. And since foods like tomatoes contain both, changing it up is always best. When you are cooking, it's best to shoot for a "tender-crisp" consistency to get the max amount of antioxidants. (Bonus: Quickly zapping veggies in the microwave is a great way to hold on to a lot of antioxidants too.)

WILL UPPING YOUR ANTIOXIDANT INTAKE TODAY turn your immune system around tomorrow? No. But it will get there over time. "All of these chronic conditions that tax our immune system take time to accumulate," says Nielsen. "Diabetes, heart disease, psoriasis—none of this happens overnight." It's all a slow build of many factors, including our lack of antioxidant-packed superfoods. "We need to let antioxidants do their job and counter the damage that's occurring every single day," she says. Essentially we need to be our own superheroes. "If we all started consuming more whole foods, packed with antioxidants, we'd experience an enormous positive impact in terms of health and disease prevention," says Boham. "It's in our reach." ●

IMMUNITY-BOOSTING FOODS & NUTRIENTS

If the much-dreaded cold and flu season is upon you, here's how you can bolster your defenses against the germs lurking in the common areas in your office, the mall where you do your holiday shopping and the rest stops you encounter in your holiday travels. Include these immunity boosters in your diet, plus make sure to wash your hands and try to get enough sleep too.

BY EMILY SOHN

GREEN TEA

Polyphenols, potent plant antioxidants, are what's believed to give green tea its immune-boosting effects. One laboratory study suggested that a particular type of polyphenols called catechins may kill influenza viruses. To maximize benefits and minimize bitterness, use just-below-boiling water and steep green tea no more than a minute or two. A little lemon and honey can also help blunt the bitterness. But don't add milk, since the proteins will bind to the polyphenols, making them less able to be absorbed.

CHICKEN SOUP

It turns out there is something to chicken soup after all. Although soup won't stop you from getting a cold, it could help ease symptoms faster. One study found that eating chicken soup has a mild anti-inflammatory effect that impacts white blood cells to relieve cold symptoms more quickly, as well as helps keep colds from developing into upper respiratory infections.

VITAMIN D

In a study published recently in the *American Journal of Clinical Nutrition*, children who took daily vitamin D supplements (1,200 IU) were 40% less likely to get a common flu virus than kids who took a placebo. Laboratory studies indicate that the nutrient may help immune cells identify and destroy bacteria and viruses that make us sick, says Adit Ginde, M.D., M.P.H., a public-health researcher at the University of Colorado School of Medicine in Denver. Since the majority of Americans don't get enough vitamin D, some experts recommend a D supplement. You can also get it (in small doses) from fatty fish, such as salmon, and fortified milk—and your body makes vitamin D from the sun.

SOLUBLE FIBER

Mice that ate a diet rich in soluble fiber for six weeks recovered from a bacterial infection in half the time it took mice that chowed on meals containing mixed fiber, according to a recent study in the journal *Brain, Behavior and Immunity*. Soluble fiber, which is abundant in citrus fruits, apples, carrots, beans and oats, helps fight inflammation, says lead author Christina Sherry, Ph.D., R.D., of the University of Michigan, Ann Arbor. Insoluble fiber—found in wheat, whole grains, nuts and green leafy vegetables—is still important for overall health, but it doesn't seem to have the same impact on immunity. Strive for 25 to 38 grams of total fiber a day, Sherry says, paying extra attention to getting the soluble kind.

DOES A CANCER-PREVENTION DIET REALLY EXIST?

The thinking about how lifestyle and diet affect your risk of cancer is always shifting. Here's what you need to know now.

BY LAURA BEIL

This year, more than 1.7 million Americans will learn they have cancer. Researchers have been working for decades to bring that number down and—despite recent headlines suggesting that a lot of cancer is just "bad luck"—the American Association for Cancer Research says at least half of all cancer deaths are, in fact, preventable if we keep a normal weight, exercise, use sunscreen, eat a healthy diet, don't smoke, etc. Straightforward, right? If we only knew what an anticancer diet looked like.

A generation ago, eating fruits and vegetables seemed like the answer, with estimates that they might lower your risk of 78% of all cancers. At one point, experts at the National Institutes of Health confirmed that the multimillion-dollar 5-A-Day campaign, which encouraged eating fruits and veggies to fight cancer and other chronic diseases, was backed by a "diverse and convincing body of evidence." Now there's evidence that is more diverse—and less convincing.

The Nurses Health Study and the Health Professionals Study, which combined followed more than 100,000 men and women for more than a decade, reported in 2004 that fruit and vegetable consumption did not affect cancer risk. That was followed by similar findings from Greece and Japan. And finally, a 2010 analysis of 500,000 Europeans had results so disheartening that some skeptics went so far as to declare the five-a-day "promise" simply a myth perpetuated by the produce industry.

So should we pass the bacon cheeseburgers and ditch broccoli and salads? Not exactly. Rather than negating the value of vegetables, the underlying message is: you can't count on easy, singular

BEANS CAN HELP YOU FEEL FULL ON FEWER CALORIES AND LOWER YOUR RISK OF OBESITY (AND THEREFORE YOUR CANCER RISK).

solutions—even though science has found a link. Just like the disease itself, diet advice is complicated. When it comes to cancer prevention, "we may never fully understand all the individual components that make up a healthy diet," says Carrie R. Daniel-MacDougall, Ph.D., M.P.H., of the University of Texas MD Anderson Cancer Center. "It's incredibly complex."

While experts still say plants are a major part of an overall pattern of eating that your body prefers, they now recognize that what you're not having when you help yourself to broccoli may be as important as eating the vegetable itself. "People who are eating fruits and vegetables are eating less of something else, often animal products," says Gary Fraser, Ph.D., of Loma Linda University, whose research has found that vegetarians are less likely to develop cancer, for reasons that aren't fully understood. Data published in 2018 in *JAMA Internal Medicine* showed that vegetarians have a 29% reduced risk of rectal cancer. The study was part of ongoing research following more than 77,000 Seventh-Day Adventists.

Rather than negating the value of vegetables, the underlying message is: you can't count on easy, singular solutions.

The enthusiasm of the early days—when we heard you could cancer-proof yourself with produce—arose largely from studies comparing the diets of people who had cancer with the diets of people who didn't. Problem is, these studies can be biased because volunteers who don't have cancer tend to be health-conscious (and eat more veggies).

Other tantalizing clues helped back up the initial findings that fruits and vegetables were protective. Take breast cancer. Japanese women who move to the United States tend to approach the higher risk level of their adopted home, suggesting that something about their new diet and lifestyle makes a big difference.

Newer studies (the ones that found that produce offered little, if any, protection from overall cancer risk) are stronger evidence because they started with a group of people with no illness, noting who developed cancer and who didn't, and saw how their diets matched up. These so-called prospective studies take longer but are seen as more reliable because the results aren't as influenced by such variables as the participants' backgrounds. But that type of study has drawbacks too. Researchers ask people to report total consumption of fruits and vegetables (but don't record much detail about which types of produce they eat). And the studies usually look at the occurrence of all cancers bundled together, so protection from any one particular kind of food against a particular cancer gets lost in the background. For example, if tomatoes really do guard against prostate cancer, bundling them with every other kind of produce and prostate with every other kind of cancer masks the correlation. Pooling data like that might also dilute areas where benefits may be stronger. "If you lump all cancers together, you get weaker evidence for any individual one," says Alice Bender, M.S., R.D.N, of the American Institute for Cancer Research.

FURTHER, STUDIES FACE LIMITATIONS BY FACTOR-ing out the effects of what you're *not* eating. People who eat little red and processed meat and replace that space on their plates with fiber-rich plant foods (beans, broccoli, whole fruit, etc.) could cut their colorectal cancer risk by as much as 50%.

The harm may come not just from the meat itself, but also from how it's prepared, says Daniel-MacDougall. The smoke from meat on a barbecue has some of the same carcinogens as cigarettes and car exhaust, she says. Char your rib-eye or singe it in the broiler, and that crispy crust likely contains heterocyclic amines and polycyclic aromatic hydrocarbons, carcinogens formed when meat is exposed to high temperatures. Curing, which preserves about one-quarter of the meat Americans buy, may also be problematic. Processed meats have been linked to a 20% to 50% greater risk of colorectal cancer, says a report in *Nutrition and Cancer*, perhaps because they contain more fat and potentially harmful additives like nitrites and nitrates. Eating foods prepared this way once in a while will likely do no harm, but your odds may increase if charred steak and bacon play a big part of your diet.

Alcohol and sugar also make the list of potentially cancer-causing foods. Women who binge-drink regularly or have more than two drinks a day are

thought to raise their risk of breast cancer. Among men, the evidence is less strong, but experts still advise men not to have more than two drinks a day. That said, it is also reported that people who drink a bit of alcohol (fewer than three drinks a week) have a lower overall risk of some cancers than teetotalers. As for sugar, it's not clear yet if the problem is the sweet stuff itself—and therefore the body's insulin response—or the extra body fat that can come from eating too much sugar (excess body fat can disrupt hormones, potentially upping cancer risk).

Obesity raises the risk of many cancers; for some, like endometrial and esophageal cancers, perhaps as many as 40% of cases are attributed to a higher body weight. This partly explains why exercise may be beneficial for preventing cancer. But the benefits of exercise go beyond weight control, since physical activity also boosts the immune system and helps regulate certain hormones to healthy production levels.

None of this, however, means particular foods should be forbidden. As usual, moderation rules. "We need to think of filling most of our plate with plant foods," Bender says. Cancer isn't the only threat against good health. There's plenty of evidence that eating a healthier diet lowers your risk of heart disease, diabetes, stroke and obesity. So dig into a bowl of blueberries and oatmeal and you'll be less hungry for a blueberry muffin (denser on calories and sugar, lighter on fiber and vitamins). "When you start making good choices, you're not as hungry for the bad choices," Daniel-MacDougall says. ●

THE POWER OF CITRUS

Oranges, lemons, limes and grapefruit aren't just refreshing—they're super-nutritious too. Here are the health reasons to have a serving of superfood citrus every day.

BY KAREN ANSEL, M.S., R.D., AND LORI LONGBOTHAM

When the mercury dips below 30 and the roads are glazed with ice, it's nice to know that somewhere along the sun-kissed edges of America citrus is growing. Plump, aromatic and packed with plenty of tartness, even the most basic of these fruits—oranges, lemons, limes and grapefruit—scream life during a dead season. Bite into a sparkling orange and you're reminded of southern Texas heat, California's endless summer, Florida's searing sunlight. Of course, citrus's strength isn't limited to the culinary. Just one medium orange delivers more than 100% of your daily recommended dose of vitamin C—worth its spot in your shopping cart during winter cold season. Sure, other fruits and vegetables can deliver nutrition, but none do so with citrus's verve. In a sea of white, let it be your January thaw.

›

Oranges

Loading up on citrus and vitamin C may not prevent colds, but high doses of C (400 to 500 mg) may shorten the duration and lessen symptoms. There's about 17% more vitamin C in organic citrus than in conventional, which also adds intense and complex flavors. The outer skin of citrus is full of volatile aromatic oils that contain floral, spicy and bitter notes. Zest is particularly pungent. Try adding orange zest along with juice to a vinaigrette to underscore the citrus flavor.

Limes

In an animal study published by the journal *ARYA Atherosclerosis*, lime juice and zest were shown to decrease streaks found in coronary arteries. These fatty streaks are indicators of plaque buildup and cardiovascular disease. Squeeze lime juice on cut avocados, apples, bananas, artichokes and pears to keep them from turning brown. Limonoids, a special class of antioxidants in most citrus, may help guard against colon, lung, breast, skin and stomach cancer.

Lemons

Lemons and other citrus are rich sources of flavonoids. The predominant flavonoid in these fruits—hesperidin—is credited with boosting "good" HDL cholesterol and lowering "bad" LDL cholesterol and triglycerides. There may be weight-loss benefits too. A rodent study examined the benefits of lemon polyphenols—which act as antioxidants and anti-inflammatory agents—and found they helped combat weight gain in obese mice. A squeeze of citrus also brings out other flavors. Add lemon to a soup or sauce at the end of cooking and you won't detect the citrus, but the taste will be brighter and fresher. Soak raw fish for several hours in citrus juice, especially more-acidic lemon or lime juice, to "cook" the flesh. The acidity firms up the proteins in the flesh and turns them opaque. Note that "cooking" seafood in acid does not eliminate the risk of food-borne illness.

BOTH CITRUS AND SALT ENHANCE FLAVORS, SO SKIP THE SALT AND ADD A SPRITZ OF CITRUS JUICE INSTEAD TO KEEP DISHES LOWER IN SODIUM

Grapefruit

Naturally packed with water and fiber, citrus can help you stay full and satisfied, but grapefruit may have a decided advantage, according to a 2006 *Journal of Medicinal Food* study. When researchers put volunteers on an exercise plan for 12 weeks and asked them to either eat half a fresh grapefruit or drink apple juice and pop a placebo pill before each meal, the grapefruit group dropped an average of 3½ pounds (compared with just ½ pound for the apple group). The brilliant-pink pigment in some grapefruit indicates the presence of lycopene, an antioxidant that combats the body's cell aging triggered by harmful free radicals. Lycopene may also help lower your risk of several kinds of cancer, including prostate, colon and lung. Look for grapefruit with firm, shiny skin that are heavy for their size, which means they have lots of juice. ●

EatingWell

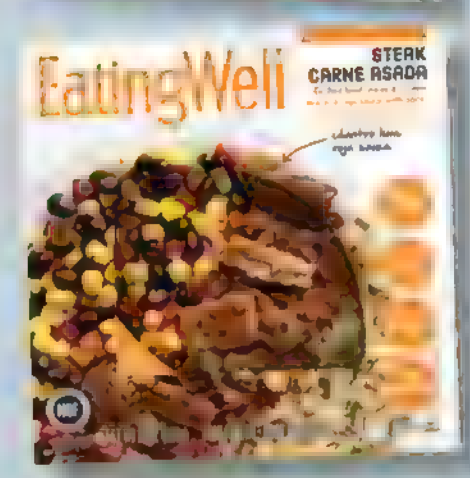
FROZEN ENTRÉES

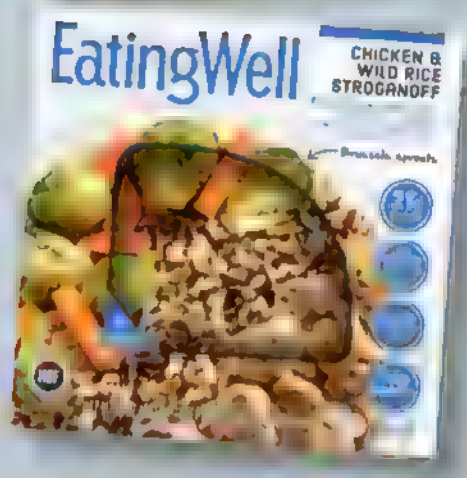
FIND US IN THE FREEZER AISLE

See for yourself what makes EatingWell taste better!

Made with a ton of veggies, whole grains and proteins, free from artificial flavors, colors or preservatives. You can count on us for freshness and flavor.

Seller Focus. See For Yourself at EatingWell.com/freezerfresh





BREAKFAST

Make the start of every day a bit healthier by incorporating nutrient-dense superfoods into your breakfast.

MEAL PLAN BY
EMILY LACHTRUPP, M.S., R.D., C.D.

Vegan Smoothie Bowl

ACTIVE: 10 min
TOTAL: 10 min

Eat this thick and creamy smoothie bowl with a spoon! Banana and frozen berries whip together with a little nut milk for a vegan breakfast. We use fruit, nuts and seeds for topping, but feel free to experiment with whatever you like.

- **1 large banana**
- **1 cup frozen mixed berries**
- **½ cup unsweetened soymilk or other unsweetened nondairy milk**
- **¼ cup pineapple chunks**
- **½ kiwi, sliced**
- **1 tablespoon sliced almonds, toasted if desired**
- **1 tablespoon unsweetened coconut flakes, toasted if desired**
- **1 teaspoon chia seeds**

1. Combine banana, berries and soymilk (or other nondairy milk) in a blender. Blend until smooth.
2. Pour the smoothie into a bowl and top with pineapple, kiwi, almonds, coconut and chia seeds.

SERVES 1
CAL 338 / **FAT** 10G (SAT 3G) / **CHOL** 0G / **CARBS** 64G / **TOTAL SUGARS** 36G (ADDED 0G) / **PROTEIN** 9G / **FIBER** 12G / **SODIUM** 46MG / **POTASSIUM** 940MG

GO AHEAD AND SHAKE UP THE TOPPINGS AND TRY DIFFERENT PAIRINGS OF FRUITS, NUTS AND SEEDS.

Mini Quiches with Sweet Potato Crust

ACTIVE: 25 min
TOTAL: 30 min
TO MAKE AHEAD: Individually wrap in plastic and refrigerate for up to 3 days or freeze for up to 1 month. To reheat, remove plastic, wrap in a paper towel and microwave on High for 30 to 60 seconds.
EQUIPMENT: Muffin tin with 12 (½-cup) cups

Shredded sweet potato hash browns make up the healthy crust of these gluten-free muffin-tin quiches. This grab-and-go breakfast is super-easy to prep ahead and keep stashed in the fridge or freezer. Serve them for brunch or eat them on busy weekdays.

- **1½ cups shredded peeled sweet potato**
- **1 tablespoon avocado oil**
- **½ cup diced ham**
- **½ cup diced red pepper**
- **1 cup shredded Cheddar cheese**
- **6 eggs**
- **½ cup nonfat milk**
- **¼ teaspoon salt**
- **¼ teaspoon pepper**

1. Preheat oven to 350°F. Generously coat a muffin tin with cooking spray.
2. Toss sweet potato and oil in a medium bowl. Divide among the 12 muffin cups, pressing into the bottom and up the sides to create a crust.
3. Divide ham and red pepper among the cups. Top with cheese, keeping it away from the edges to minimize sticking.
4. Whisk eggs, milk, salt and pepper in a large measuring cup. Carefully pour the mixture into the cups, dividing evenly.
5. Bake until set and cooked through, 22 to 28 minutes. Run a knife around the edges of the quiches and remove from the tin while still hot. Serve warm.

SERVES 6: 2 mini quiches each
CAL 217 / **FAT** 14G (SAT 6G) / **CHOL** 211MG / **CARBS** 8G / **TOTAL SUGARS** 3G (ADDED 0G) / **PROTEIN** 14G / **FIBER** 1G / **SODIUM** 468MG / **POTASSIUM** 300MG

Berry-Kefir Smoothie

ACTIVE: 5 min
TOTAL: 5 min

Get a probiotic boost at breakfast when you add kefir to your smoothie. Feel free to use any berries and nut butter you have on hand in this healthy recipe.

- **1½ cups frozen mixed berries**
- **1 cup plain kefir**
- **½ medium banana**
- **2 teaspoons almond butter**
- **½ teaspoon vanilla extract**

Combine berries, kefir, banana, almond butter and vanilla in a blender. Blend until smooth.

SERVES 1: 2 cups
CAL 304 / **FAT** 7G (SAT 1G) / **CHOL** 5G / **CARBS** 15G / **TOTAL SUGARS** 37G (ADDED 0G) / **PROTEIN** 15G / **FIBER** 9G / **SODIUM** 25MG / **POTASSIUM** 437MG

Blueberry Almond Chia Pudding

ACTIVE: 10 min
TOTAL: 8 hrs 10 min
TO MAKE AHEAD: Refrigerate pudding (Step 1) for up to 3 days. Finish with Step 2 just before serving.

Switch up your morning oatmeal routine with this easy chia pudding recipe. It's made just like overnight oats—combine chia and your milk of choice, let soak overnight, then top with juicy blueberries and crunchy almonds and dig in!

- **½ cup unsweetened almond milk or other nondairy milk beverage**
- **2 tablespoons chia seeds**
- **2 teaspoons pure maple syrup**
- **⅛ teaspoon almond extract**
- **½ cup fresh blueberries, divided**
- **1 tablespoon toasted slivered almonds, divided**

1. Stir together almond milk (or other nondairy milk beverage), chia, maple syrup and almond extract in a small bowl. Cover and refrigerate for at least 8 hours and up to 3 days.

2. When ready to serve, stir the pudding well. Spoon about half the pudding into a serving glass (or bowl) and top with half the blueberries and almonds. Add the rest of the pudding and top with the remaining blueberries and almonds.

SERVES 1: 1 cup
CAL 229 / **FAT** 11G (SAT 1G) / **CHOL** 0G / **CARBS** 30G / **TOTAL SUGARS** 16G (ADDED 8G) / **PROTEIN** 6G / **FIBER** 10G / **SODIUM** 91MG / **POTASSIUM** 231MG

Cherry-Berry Oatmeal Smoothies

ACTIVE: 10 min
TOTAL: 15 min

Add some oatmeal to give your fruity smoothie even more staying power—this quick breakfast will fuel your morning.

- ½ cup water
- ⅓ cup quick-cooking rolled oats
- ½ cup light almond milk or fat-free milk, divided
- ¾ cup fresh or frozen unsweetened strawberries, partially thawed
- ½ cup fresh or frozen unsweetened pitted dark sweet cherries, partially thawed
- 1–2 tablespoons almond butter
- 1 tablespoon honey
- ½ cup small ice cubes

1. Combine water and oats in a medium bowl. Microwave 1 minute. Stir in ¼ cup milk. Microwave until the oats are very tender, 30 to 50 seconds more. Cool 5 minutes.
2. Transfer the oats to a blender. Add the remaining ¼ cup milk, strawberries, cherries, almond butter to taste and honey. Blend until smooth. Add ice and blend until smooth. If desired, top each serving with additional fruit.

SERVES 3: ¾ cup each
CAL 121 / **FAT** 4G (SAT 0G) / **CHOL** 0G / **CARBS** 21G / **TOTAL SUGARS** 12G (ADDED 0G) / **PROTEIN** 3G / **FIBER** 3G / **SODIUM** 41MG / **POTASSIUM** 192MG

FREEZE LEFTOVERS IN INDIVIDUAL SERVINGS AND MOVE A GLASS TO THE FRIDGE BEFORE BED.

CHAPTER 2

YOUR HEALTHIEST MEALTIME

Make dinner truly super by working these nutrient-dense staples into your meals.

10 EVERYDAY SUPERFOODS

These foods and ingredients top the list of the best healthy foods to eat during any meal.

BY LISA VALENTE, M.S., R.D.

Superfoods may have a little bit of hype but are also some of the healthiest foods you should be eating every day: foods brimming with various disease-fighting nutrients and delivered in a delicious form (think: antioxidant-packed blueberries).

But some super-healthy foods, especially trendy ones, are a little too exotic and expensive to fit into our everyday diets (ahem, goji berry). Others—such as, say, sardines—you're likely to eat only once in a while. Trying new foods is great and variety is important for a healthy diet, but even while you are doing that, here are the healthiest foods that are easy to incorporate into a diet. After all, it doesn't matter how healthy a food is if you're not eating it with the same regularity. The healthiest foods and diets focus on real whole food: lots of vegetables and fruits, whole grains, healthy proteins and fats. Added sugar and sodium are limited. There are plenty of other good-for-you foods that didn't make this list—like lentils, bananas and beets—but the choices here are a great place to start to add more healthy foods to your diet.

1 BERRIES

All berries are great sources of fiber—a nutrient that most Americans don't get enough of. Fiber helps keep your digestive system healthy and working properly, and it's good for your heart and your waistline, since it's so filling. All berries are good for you, so be sure to mix it up. In the winter, when berries aren't in season, grab frozen varieties (without sweeteners), which are great for smoothies, in oatmeal and, when thawed, in yogurt. Raspberries (one of the best breakfast foods for weight loss) boast the most fiber, at 8 grams per cup, and also contain ellagic acid, a compound with anti-cancer properties. The same amount of blueberries has half the fiber (4 grams) but is packed with antioxidants that may help keep memory sharp as you age. A cup of strawberries contains 3 grams of fiber but more than a full day's recommended dose of vitamin C.

2 EGGS

A source of high-quality vegetarian protein, eggs might give your meal more staying power too. One egg has about 70 calories and 6 grams of protein. Plus, egg yolks contain lutein and zeaxanthin—two antioxidants that help keep eyes healthy. In fact, mounting research links

+
REMOVE FRESH BERRIES FROM THEIR CONTAINER AND SORT THEM AS SOON AS YOU CAN. EAT ANY GENTLY BRUISED ONES RIGHT AWAY.

ONE MEDIUM SWEET POTATO—OR ABOUT ½ CUP—PROVIDES NEARLY FOUR TIMES THE RECOMMENDED DAILY VALUE OF VITAMIN A.

lutein and zeaxanthin with a reduced risk for age-related macular degeneration, the leading cause of blindness in people over 50. And lutein may also help shield your skin from UV damage. Who knew the humble egg was so nutritious?

3 SWEET POTATOES
Sweet potatoes are so brilliantly orange thanks to their alpha and beta carotene. The body converts these compounds into the active form of vitamin A, which helps keep your eyes, bones and immune system healthy. These phytochemicals also operate as antioxidants, sweeping up disease-promoting free radicals. Toss sweet potato chunks with maple syrup, butter and lemon juice and roast until tender and golden brown for an easy side dish.

4 BROCCOLI
This green powerhouse packs vitamins A, C and K (which helps with bone health), as well as folate. There is another reason broccoli frequently earns a top spot on superfoods lists: it delivers a healthy dose of sulforaphane, a type of isothiocyanate that is thought to thwart cancer by helping to stimulate the body's detoxifying enzymes.

5 OATS
Oats are a breakfast staple and quite the superfood. Eating more oats is an easy way to up your intake of fiber, which is good for our guts and waistlines and for keeping us full—all important qualities in a breakfast food. Plus, oats are a whole grain, and plain oats don't have any added sugar. Plain oats can also be turned into healthy meals and snacks, like blueberry oat cakes, homemade granola to enjoy with fruit and yogurt, or DIY energy bites with peanut butter.

6 APPLES
Apples don't have megadoses of any one vitamin or mineral to boast about (although they have some vitamin C), but several research studies suggest that they have tangible benefits for your heart. The latest one, out of Florida State University, showed that people who ate the equivalent of 2 apples daily for a year improved markers related to heart health. Researchers think that it's the combination of the pectin (a type of fiber) and polyphenols that makes apples so good for you. The price of different kinds of apple can vary greatly. Scan the options the next time you're at the grocery store and opt for one on the cheaper side.

7 NUTS
What can't nuts do? They're packed with healthy polyunsaturated fats and magnesium, two important nutrients for heart health. These nutrients may also offer protection against insulin resistance, which can lead to diabetes. Antioxidant compounds found in nuts, including ellagic acid and resveratrol, can reduce the wear and tear on your body from free radicals. In turn, this lowers inflammation, which may reduce cancer risk. Plus, nuts provide insoluble fiber, which studies suggest may help you stay healthy by feeding beneficial gut bacteria. Spread nut butter on toast, grab a handful of nuts for a snack or make your own simple trail mix.

8 TEA
Studies show that if you drink tea regularly, you may reduce your risk of Alzheimer's, diabetes and some cancers, plus have healthier teeth and gums and stronger bones. (Tea may also help with weight loss.) How? Tea is rich in a class of antioxidants called flavonoids. Regardless of the variety you choose, maximize the power of its flavonoids by drinking it freshly brewed. If you want to keep a batch of cold tea in your refrigerator, add a little lemon juice—the citric acid and vitamin C in that squeeze of lemon, lime or orange help preserve the flavonoids.

9 SPINACH
Dark leafy greens do a body good. Spinach is teeming with important nutrients: vitamins A, C and K—as well as some fiber, iron, calcium, potassium, magnesium and vitamin E. Studies have found that eating more greens, like spinach, can help you lose weight, reduce your risk of diabetes, keep your brain young and help fight off cancer.

10 YOGURT
Yogurt contains probiotics, or "good bacteria," that help keep our guts healthy. It's also rich in calcium. Just 1 cup of yogurt provides nearly half the recommended daily value of calcium and delivers phosphorus, potassium, zinc, riboflavin, vitamin B_{12} and protein. Choose Greek yogurt for an even bigger protein boost, and whenever possible, reach for plain. ●

THE WILD WORLD WITHIN

Scientist Jeff Leach is studying gut microbes that have the potential to improve our weight, mood, allergies, heart and more.

BY GRETEL H. SCHUELLER

Barefoot and coated in fine desert dust, Jeff Leach hops around the fire, adjusting logs. The fire's roaring glow provides the only light as the sun sinks behind the Chisos Mountains and the desert air cools.

It's dinnertime here in Terlingua, the tiny town in southwest Texas that Leach sometimes calls home. We've just finished piercing roughly chopped pieces of leek, onion, beef, green peppers and garlic onto metal skewers, and Leach works at balancing them over the fire. Juices sizzle, and the roasting aroma makes my mouth water.

"Have you ever held a colon in your hands?" he asks. Whoa...

Talk of belly bacteria, stool samples, bowel movements or your colon isn't supposed to be part of polite (or appetizing) dinner conversation. But eating with Leach requires new rules of etiquette. Actually, it requires rethinking a whole slew of "rules."

Once you get talking to Leach and his research colleagues around the world, you quickly realize it's not just about changing dinner-table etiquette—we may be changing how we talk about health entirely. It all centers on the trillions of bacteria living in our gut.

We are more microbe than human. We each carry an estimated four to 10 times more bacterial cells than human cells. If you could mush all the bacteria together, they'd be the size of a basketball and weigh about 3 pounds.

The invisible world of bacteria that live on and in us is called the microbiome; the gut microbiome is the term for the diverse collection living along our intestinal tract, where the bulk of our tiny partners make their home.

Research on the gut microbiome has exploded over the past decade. This frontier may just provide the string theory of all human disease. "Name just about any ailment plaguing us and you'll find some researchers discovering the microbial angle for a connection," says Leach, whose latest book, *Rewild*, came out in 2015. Recent studies have implicated gut microbes in everything from autism and depression to cancer and diabetes to heart disease and obesity. "It's a watershed moment for human health," says Leach.

He should know. Leach—with his frenetic energy, powerful charisma and uncanny ability to step back and connect diverse dots—is one of the most visible leaders of the gut-health movement. In 2012, Leach founded the Human Food Project, a global effort to study how diet affects the microbial world within us.

Numerous studies have shown that scrubbing away our microbes may be weakening our bodies' natural defenses.

A major arm of that is the American Gut Project, thought to be the largest microbiome project in the world, co-led by Rob Knight, Ph.D., a professor at the University of Colorado's BioFrontiers Institute and a Howard Hughes Medical Institute Early Career Scientist. The goal is to map the diversity of the human gut—and tease out patterns shaped by diet, age and lifestyle to understand the factors most important for a healthy gut microbiome.

In 2018 the results from more than 10,000 people who had signed up for the gut project were published. After completing a questionnaire and a seven-day food journal and paying $99, participants sent a fecal sample to be analyzed. Some of the questions seemed odd: How many different plants do you eat in a week? Born by C-section? Own a pet? Used an antibiotic in the past month? But Leach explains that all of these things affect your microbiome.

One of the most exciting findings showed that a greater variety in plant-based foods in one's diet meant a greater diversity of microbiomes in their gut. No matter the diet they followed (vegetarian, vegan, etc.), those who ate more than 30 different plant types per week had gut microbiomes that were more diverse than participants who ate 10 or fewer types of plants per week.

"The human microbiome is complex, but the more samples we get, the sooner we will be able to unravel the many ways the microbiome is associated with various health and disease states," said Knight after the release of the results. "The American Gut Project is dynamic, with samples arriving from around the world daily. The analysis presented in this paper represents a single snapshot, but we want eventually to go beyond making maps of the microbiome to making a microbiome GPS that tells you not just where you are on that map, but where you want to go and what to do in order to get there in terms of diet, lifestyle or medications."

Building the Microbiome

Until the moment we are born, we are still 100% human. In other words, bacteria-free. Most of us get our first dose of microbes while traveling through the birth canal. The second big dose comes from breast milk. As babies grow, they pick up critters from dirt, pets, family members and friends. By age 3, the microbiome has pretty much set up camp.

But changing lifestyles are chipping away at that microbiome. Early studies indicate that children born by C-section—which reduces the microbes an infant is first exposed to—have a higher risk of celiac disease, obesity and type 1 diabetes. Add to that decreased breastfeeding and "our overzealous use of antibiotics," says Leach, who compares what antibiotics do to the gut microbiome to clear-cutting a forest.

From birth to age 5, children receive more antibiotics than during any other five-year period in their lives. One of Leach's colleagues, New York University microbiologist Martin Blaser, M.D., believes antibiotics have "deranged" the microbiome—even causing some species to go extinct—and that their overuse is why many health problems, including type 1 diabetes, obesity and allergies, are on the rise.

Numerous studies have shown that scrubbing

+

SALTY-SWEET MISO IN SOUP IS A PROBIOTIC STAR. SPRINKLE WITH PREBIOTIC SCALLIONS FOR BACTERIAL ENERGY.

away our microbes may be weakening our bodies' natural defenses—something Leach has experienced firsthand: 12 years ago, at age 2, his daughter was diagnosed with type 1 diabetes, an autoimmune disease.

"My daughter was born C-section—strike 1; breastfed very short—strike 2; strike 3, she received antibiotics at a very young age; strike 4, she lived in an environment where we basically wet-wiped everything and bathed her twice a day." Leach feels strongly that her disease is a byproduct of our culture.

At the time, Leach, who has a Ph.D. in anthropology, was studying how ancient people acquired and cooked foods. "When my daughter was diagnosed, the only thing I could do was to try to understand why she was sick. I just started emailing microbiologists and asking questions."

He learned that this autoimmune disease is an overreaction of the immune system. And the bulk of immune cells live in the gut.

So into the gut he went—and stayed.

His new focus is actually not that much of a leap from anthropology. "If microbiome research is anything, it's anthropology—about how people interact with their environment," notes Leach.

Here in this remote desert town, Leach's life is a sharp contrast to his sanitized suburban past. (He and his wife divorced, and the children live with her most of the year.) When he's not traveling for research, Leach spends time in an adobe ruin that he's rehabbing.

RUB WHOLE LEEKS WITH OIL AND GRILL BRIEFLY; TOSS WITH YOUR FAVORITE VINAIGRETTE.

The fire pit is his kitchen. He has an open-air shower, and the toilet is in a doorless shed. Only one 7-by-12-foot room is closed to the elements; it includes a single cot, a desk, a laptop computers, leaning towers of research papers and...a few dozen poison-tipped arrows (we'll get to those soon). Out here, Leach is reconnecting with his microbes because he knows how critical they are.

Most of our resident gut bacteria are real workhorses. Some aid in digestion and produce enzymes to break down foods. Others make vitamins, like B_{12} and K, and other vital compounds, such as the feel-good chemical serotonin. A few help keep the intestinal lining impenetrable. Some gut bacteria help regulate metabolism. And others boost immunity and fight pathogens.

Of course, not all bacteria are beneficial. Some amplify inflammation or cause life-threatening infections. But we carry them all naturally; they create problems only when the microbial balance becomes disturbed.

There are many ways our microbiome can get off-kilter and make us prone to infections or disease. For example, taking antibiotics shifts the balance of microbes in our gut. As a result, the infectious dose of salmonella for someone on an antibiotic is just one-thousandth the amount that's needed to infect someone who's not taking antibiotics. Diet is another way we can tip the balance unfavorably.

Essential Fuel for Your Microbiome

"We should start thinking about diets from the perspective of what we should be feeding our gut microbes," says Leach. "Nothing matters more."

A seminal study published in *Nature* in 2013 compared the gut microbiome of people eating an entirely animal-based diet (meats, cheeses and eggs) with one that was completely plant-based (grains, legumes, vegetables and fruits). Just one day on either diet was enough to dramatically shift the gut microbiome of participants. While researchers knew that diet could cause changes to the gut microbiome, this was the first study to show such a rapid effect in people.

Leach has done similar, informal tests on himself over the years. In January 2014, he tried a variety of different diets: fermented foods, vegan, raw food, paleo and others. He followed each one for 10 to 12 days, collecting daily stool samples. His first trial was a high-fat (70% of calories), average-protein (25%) diet with little carbohydrates and near zero dietary fiber. This diet, he explains, starved his microbes of food. Proteobacteria, practically nonexistent before, increased.

"This group includes a lot of your bad guys—*E. coli*, salmonella. They are associated with inflammation and may increase your risk of disease." At the same time, numbers of actinobacteria, typically considered good guys and known to suppress proteobacteria, dropped.

He's since done several variations of this diet—adjusting fat, carbs, protein and fiber. "It's the fiber that's the game changer," Leach says. Adding 40 to 60 grams of fiber per day seems to shift his gut microbiome toward a diverse, more beneficial mix of microbes.

Over time, eating a low-fiber diet can weaken digestive defenses, allowing bits of dead bacteria to get into the bloodstream.

Here's why: like all living things, bacteria need food to survive. They do that by fermenting—that's the way these guys "eat"—dietary fiber. But gut bacteria are picky. Only certain types of fiber will do—and most of us don't eat enough of the kind that bacteria need.

Fibers are like pearl necklaces of varying bead-length. Most fibers we eat are so short, they get chomped long before they make it to where bacteria are concentrated, the beginning of the large intestine, aka the colon.

Two fiber types long enough to survive the length of our gastrointestinal (GI) tract are fructan and cellulose fibers—part of a group of foods known as prebiotics, foods that encourage the growth of good bacteria. Cellulose fibers are in the tough parts of veggies and fruit we tend to toss—like the stalks of broccoli and bottoms of asparagus—and the stringy bits of celery. Fructan fibers are found in many fruits and vegetables—from artichokes to onions.

But how you prepare these foods also matters. That's because heat breaks down fibers. Consider

the onion—a good source of fructan: the average chain length of fructan in an onion is 26. A little bit of cooking breaks the onion fibers down to 8 or 10 beads. The shorter the chain, the sweeter the food—which is why deliciously sweet caramelized onions retain little fructan fiber benefit.

Leach does a little show-and-tell at Terlingua's only grocery, the Cottonwood General Store. "This is probably the healthiest thing in the store for your gut microbiome," he says, holding a leek almost as long as his arm. He points to the white part: "These store fructans. I'd say this probably does more good for you than a wheelbarrow full of yogurt." Then he points to the green top of the leek: "That's the cellulose, which has a chain length of a couple thousand 'beads.'"

A few onlookers stare at the leek in awe. Silence. "You could eat this whole leek and change your microbiome in 48 hours," Leach proclaims. In other words, if you eat this, the good guys will come. In contrast, he pulls out a bag of baby carrots. "We think we're doing well when we steam these for dinner," Leach says. And for some purposes we are. But there's not much here to feed your gut microbes.

When he's not using himself to road-test various diets, Leach practices what he preaches, eating a (lightly sautéed) leek a day—"The whole thing," he emphasizes, "from muddy roots to fibrous green tops." In fact, he convinced this tiny grocery store in the middle of a desert to carry leeks.

Gut microbes feast away on those fibers in a

MUST-EAT FERMENTED FOODS FOR A HEALTHY GUT

Try these probiotic-rich foods for gut health. The good bacteria may improve digestion, boost immunity, promote a healthy weight and more.

BY LISA VALENTE, M.S., R.D.

Fermented foods are a hot health topic—and for good reasons. These good bacteria—particularly those in our gut—may improve digestion, boost immunity and help us maintain a healthy weight. Research is still emerging on just how important these mighty microbes might be for our health, but the early results are

fermentation frenzy. Some of fermentation's most beneficial by-products are short-chain fatty acids that provide energy for intestinal cells, help repair the colon's protective lining and increase the acidity of the colon. Most infection-causing bacteria—as well as other microscopic troublemakers like parasites—don't do well in acidic environments.

A Gut Without Fiber

Starve your gut friends and the consequences can be toxic. Without fiber, the colon environment favors unsavory microbes. No fiber also means no more short-chain fatty acids, paving the way for less-desirable bacteria to flourish.

Over time, starving bacteria start eating us—specifically the lining of the colon. Normally, the intestinal lining is a selective barrier between our digestive tube and the rest of our body—harder to break into than a trendy club; good bacteria like *Bifidobacterium* act as buff bouncers, making sure only the worthy get past. Over time, eating a low-fiber diet can weaken these defenses, allowing bits of dead bacteria to get into the bloodstream. "This is what causes low-grade inflammation," Leach explains.

Chronic, low-grade inflammation can raise your risk for various chronic diseases—and it is a hallmark of metabolic syndrome, a collection of conditions that can include insulin resistance, elevated blood sugar and high blood pressure. Patrice Cani, Ph.D., a microbiologist at the Catholic University of Louvain in Belgium, is one of

promising. Take care of your gut, and in turn it will take help take care of you.

Eating foods packed with probiotics—good bacteria—is one way to boost your gut health (eating more prebiotic-rich foods is important too). Fermented foods, like yogurt and kimchi, are rich in probiotics. The good bacteria grow during the fermentation process. Add these seven fermented foods to your diet for a healthy dose of probiotics.

KIMCHI. Sauerkraut's Korean cousin, this fermented cabbage dish is spicy. Look for it in the refrigerated section near other Asian ingredients or pickles and sauerkraut. Eat it on its own or try it as a topper on burgers and tacos.

KOMBUCHA. Kombucha is a tangy, effervescent tea—typically black or green—that's rich in good-for-you yeast and bacteria. The drink is often flavored with herbs or fruit. You can find kombucha in natural-foods stores, farmers' markets and your regular grocery store. A tiny amount of alcohol is sometimes produced during fermentation—usually less than 0.5% alcohol by volume (although some have been found to have closer to 2% to 3%). If you're not into the sour taste, you just might not have found the right brand or flavor for you.

SAUERKRAUT. Sauerkraut is good for more than topping a hot dog. Made from just cabbage and salt, this fermented food delivers a healthy dose of probiotics and fiber. You can make your own or buy sauerkraut at the store. The kind sold in the refrigerated section will have more probiotics than shelf-stable canned and jarred varieties.

KEFIR. A fermented milk drink—it tastes like drinkable yogurt—kefir is full of calcium and probiotics. Just like yogurt, kefir has probiotics that help break down lactose (milk sugar), so if you're lactose intolerant, it may be easier to digest than other dairy foods. Kefir is delicious in smoothies and by itself.

MISO. A fermented paste made from barley, rice or soybeans, miso adds a nice umami flavor to dishes. It's bold, so a little goes a long way (which is good because it's also high in sodium). Miso is typically found in soups, but it also makes salad dressings and marinades even more delicious and gut-healthy.

TEMPEH. Tempeh is made from naturally fermented soybeans. It's similar to tofu in that it's a plant-based protein made from soy, but unlike tofu, tempeh is fermented. It also has a firmer texture and a slightly nuttier flavor profile. It's a good source of probiotics, and because it contains all the essential amino acids, it's a complete source of vegetarian protein.

YOGURT. Yogurt is made by fermenting milk. Yogurt labeled with the "Live & Active Cultures" seal guarantees 100 million probiotic cultures per gram (about 17 billion cultures in a 6-ounce cup) at manufacturing time. Even yogurts without this seal contain probiotics. The probiotics in yogurt help digest some of the lactose, so you may still be able to enjoy yogurt if you're lactose intolerant. Plus, many companies are now making dairy-free and vegan yogurt options that contain probiotics.

the leading researchers looking at the connection between inflammation and gut microbes.

His work has shown that a high-fat, low-fiber diet increases inflammation—that's probably not a big surprise. The real shocker came when he and his colleagues fed gut-friendly plant fibers to mice on a high-fat diet: they were able to stop the whole inflammation cycle that fuels metabolic syndrome.

Our Original Microbiome

After our fireside dinner, Leach invites me into his adobe ruin to show me photos of the people he says will help us better understand the gut microbiome. They carry a gut microbe mix that's close to the one our ancestors had, Leach believes. Photos of men hunting, straw huts and smiling children cover the walls. Leach is animated and starts pulling out souvenirs to show me: a drum, sandals made of old tires.

When researchers fed gut-friendly plant fibers to mice on a high-fat diet, they were able to stop the whole inflammation cycle.

Then he brings out the arrows. Colorful feathers decorate the tail ends and the metal tips are sharp—and covered with dried blood. "Careful, don't touch the tips. They're poison." The arrows belong to the Hadza of Tanzania, "the last true hunter-gatherers in the world," he says. "They live where humans evolved; it's as close as we can get to the original microbiome."

For the past year, Leach has been spending time with this dwindling tribe of roughly 300 people. The Hadza still hunt and gather the majority of their food, have limited access to antibiotics, are born naturally, breastfeed for two-plus years, drink untreated water and live outdoors 24-7—all things that encourage a diverse gut microbiome.

While infant mortality—as in many developing countries—is high, Hadza adults are healthy and rarely suffer from "modern" diseases like heart disease, diabetes, allergies and cancer, according to Leach. Their diet shifts dramatically over the year: during the rainy season from February to April, as much as 80% of their calories comes from honey; in contrast, late fall is characterized by meat bingeing. What remains constant is their average daily fiber intake: more than 100 grams. Most comes from the seeds and pulp of the fructan-rich baobab fruit and fibrous tubers.

It's here with the Hadza that Leach sees the puzzle pieces fitting together—how the "dirty" world of the Hadza mirrors the robust world of their gut. "Once you've sat under a baobab tree for two weeks and watched how they drink water, build their houses, handle animals, travel—and the things they don't do—there's a lot of eureka moments."

Fieldwork to help understand the bigger picture is what Leach does best. For the analysis and lab work, he has brought together a global "dream team," as he calls them.

"Intellectually, [Leach's] background and perspective are huge assets to the project," says Justin Sonnenburg, Ph.D., a microbiologist at Stanford University who collaborates with Leach and runs one of the labs involved in the Human Food Project. He receives some of the stool samples Leach collects from the tribe. Other samples arrive to other dream-team members.

The first report on the Hadza microbiome was published in 2014, and it showed that the hunter-gatherers probably have the most diverse gut microbiomes in the world, with hundreds more species than most other people. "It suggests that the microbiome is going through extinctions as food becomes more processed and less diverse," notes Sonnenburg. "What does it mean if the world is heading down a path of reduced microbiome diversity?" He points to the fact that most Western diseases are spurred by inflammation. This is why, taking a few lessons from the Hadza, we could do with a little rewilding of our gut microbiome.

There's certainly more to be discovered in this diverse world tucked inside our bellies. But Leach believes we should already feel empowered. His basic message: increase and diversify your plant intake. The foods you pick "should be chewy, should get stuck in your teeth," he says. "Eat the end of the asparagus, the stalk of the broccoli. Become a little more adventurous in the produce section. This is a part of your health you can control. You can shift your microbiome." ●

ONE CUP OF COOKED ASPARAGUS HAS 40 CALORIES, 4 GRAMS OF PROTEIN, 4 GRAMS OF FIBER AND 404 MG OF POTASSIUM.

+
ADD A SPRINKLE OF CINNAMON TO A JUICY PEAR FOR A DELICIOUS AND HEALTHY EVENING SNACK.

8 SUPERFOOD SPICES AND HERBS TO START EATING

People around the world have known for centuries about the healing power of herbs and spices. Here's the science behind why they are so good for you, and tips for how to get your fill.

BY KERRI-ANN JENNINGS, M.S., R.D.

A sprinkle of cinnamon in your morning coffee. A handful of freshly chopped basil over pasta. Herbs and spices can wake up just about any food. But they can also do a lot to keep you well. Here are the health benefits of some of our favorite herbs and spices—plus delicious ways to use them. Important: some herbs in large doses can cause side effects or interact with medications. Use moderation and tell your doctor about any herbal supplements you take.

1 CINNAMON
The American Heart Association recommends using sweet spices like cinnamon to add flavor instead of sugar and other sweeteners. Most Americans eat way too much sugar, which can lead to obesity, diabetes, heart disease and other serious conditions. Some studies suggest cinnamon may help lower blood-sugar spikes in people with type 2 diabetes. Results have been mixed, though, so more studies are needed.

2 TURMERIC
This golden spice delivers some solid-gold benefits, such as easing inflammation, slowing cancer and treating depression and other conditions. That's thanks to its high amounts of curcumin, a powerful antioxidant. Studies show that curcumin can help treat a range of health problems, from minor toothaches to chronic conditions like arthritis, heart disease and diabetes. Researchers are also studying its potential as a treatment for Alzheimer's disease, as well as colon, prostate and breast cancers. Results of a small clinical trial, published in 2014, boosted evidence that curcumin may be a safe and effective treatment for depression.

3 OREGANO
These tiny but mighty leaves boast many nutrients, including vitamins K and E, calcium, iron, manganese and fiber. And oregano is sky-high in antioxidants. In fact, an analysis by the American Chemical Society found that just 1 tablespoon of fresh oregano has as much antioxidant activity as a medium apple and that oregano has 20 times as much antioxidant power as many other herbs and four times as much as blueberries, one of the richest sources of antioxidants around. All that's good news for your heart—and more. Antioxidants prevent cell damage caused by free radicals, helping fend off heart disease, stroke and cancer. Plus, oregano has phytonutrients that help fight infections.

4 CAYENNE PEPPER
A dash of cayenne pepper with your dinner may give your weight-loss efforts a tiny boost, especially if you're not used to spicy stuff. Cayenne pepper contains capsaicin, the compound that gives fresh chiles—and spices like cayenne and paprika—their kick. Studies show that capsaicin bumps up the body's metabolic rate, helping you burn slightly more calories. It may also stimulate brain chemicals that help tame hunger. In a six-week study by Purdue University, 25 people—some spicy-food fans, some not—had about a half teaspoon of cayenne pepper with a daily meal. Those who didn't eat spicy foods regularly were less hungry and had fewer cravings for sweet, salty and fatty foods. The researchers say it's cayenne's hot taste (especially for those not used to it) that leads to the benefits.

5 GARLIC
With its potent bioactive compounds and other nutrients, garlic may be good for much more than warding off vampires. Treatments with garlic extracts, powders and supplements have been found to significantly lower high blood pressure. In one study of more than 200 people with hypertension, taking daily garlic supplements reduced blood pressure as effectively as the beta-blocker drug atenolol. And, although some experts say the evidence is iffy, several studies suggest that garlic supplements may help prevent colds and speed recovery.

6 PEPPERMINT
Having a bad day? Brew a pot of peppermint tea. Research suggests the minty aroma may help lift mood and sharpen fuzzy thinking. Some studies indicate that the scent may also soothe an upset stomach. In one small study, women who sniffed peppermint spirits after surgery reported much less nausea than those on a placebo or anti-nausea meds. While more research is needed in those areas, multiple studies show that peppermint oil can ease pain from irritable bowel syndrome. Experts think it works by reducing bloating and relaxing muscles in the colon.

7 ROSEMARY
A member of the mint family, rosemary is prized for both its flavor and its fragrance. Studies show that its woodsy scent helps improve concentration and may boost mood. Recent studies suggest that rosemary, even in the small amounts common in cooking, may help prevent cognitive decline in older people. One other benefit for your noggin: rosemary can fight hair loss. In one 2015 study, researchers compared rosemary oil to minoxidil, a common treatment for balding. The group that treated their scalps with rosemary oil had similar hair growth (and less scalp itching) over six months compared with those who used the medication.

8 GINGER
The dried spice made from ginger root has been used for thousands of years in Asian medicine to help treat nausea, diarrhea, colds, arthritis, menstrual cramps, migraines, high blood pressure and more. Studies show it can help soothe morning sickness, as well as nausea from surgery or chemotherapy. Ginger is also packed with gingerols, inflammation-fighting compounds that some experts believe may help fight certain cancers, reduce osteoarthritis pain and soothe sore muscles. In one study, people who took ginger capsules daily for 11 days had 25% less muscle pain when they exercised, compared with those who took a placebo. Another study found that ginger-extract injections helped relieve osteoarthritis-related knee pain. Real ginger (sorry, not ginger-flavored gingersnaps or sugary soda) is what provides the benefits. You can try about ½ teaspoon of fresh ginger, 4 cups of prepackaged or homemade ginger tea or 1 cup of ginger ale (made with real ginger). ●

TRADITIONALLY USED IN ASIAN CUISINE, GINGER IS ALSO GREAT IN SMOOTHIES WITH BANANAS, APPLES AND PEARS.

Simple Superfood Trade-Ups

These easy and delicious swaps can make a big difference in your health.

BY JESSICA MIGALA

Improving your diet doesn't mean overhauling everything and starting at square one. Sometimes all you need to do is make small upgrades to what you're already eating. These trade-ups do just that, boosting the fiber, protein and nutrient content of your food, all for little effort. You'll save on sugar, eliminate processed grains and feel fuller and more satisfied in the process. From a tiny tweak in your breakfast routine to a better-for-you salad green, here are several small swaps to start making today.

SWAP A BAGEL FOR OATMEAL

Skip the morning routine of refined carbohydrates at breakfast. Pastries, cereals, bars—they're sugar-filled, highly processed products that aren't good for your energy or your waistline. They may cause your blood sugar to spike and then drop, which can leave you grumpy and hungry before the lunch hour arrives. Instead, choose a bowl of hearty oatmeal. Steel-cut oats, a whole-grain option, deliver filling fiber, which can help you feel full all morning. Plus, they are heart-healthy and may reduce your cholesterol. Top with nuts and berries for a boost of natural sweetness and crunch—and more fiber, some protein, vitamins and healthy fats.

SWAP MIXED GREENS FOR SPINACH

On its own, a field-green mix, which often includes lettuces like romaine and butter, is a nutritious pick, offering an impressive amount of vitamins A and C. However, filling your bowl with spinach boosts the good-for-you benefits from your salad even more. Spinach packs twice the energy-revving iron as romaine and more than four times the vitamin K, which plays a role in bone metabolism. What's more, research shows that compounds called nitrates found in spinach may also keep arteries

GIVE SPINACH A QUICK TOSS IN HOT, GARLICKY OIL FOR THE PERFECT QUICK AND EASY SIDE DISH.

flexible and decrease blood pressure.

SWAP FLAVORED YOGURT FOR PLAIN GREEK YOGURT

Yogurt supplies probiotics that support a healthy gastrointestinal (GI) system, but it also shines as a top ticker protector. Hypertensive adults, or people with high blood pressure, who reported eating yogurt at least twice a week had up to a 21% lower risk of cardiovascular disease compared with those who ate yogurt once a month, said a 2018 study in the *American Journal of Hypertension*. Just be sure to reach for the plain yogurt: flavored yogurts are often filled with sugar; some have more than 20 grams per cup. As the American Heart Association notes, eating too much of the sweet stuff boosts the risk of heart disease. A better option is plain Greek yogurt, which packs more satiating protein compared with the regular kind and saves a few teaspoons of sugar. Top with chopped fruit or nuts and sprinkle with cinnamon to sweeten.

SWAP REDUCED-FAT CRACKERS FOR NUTS

It can be tempting to choose a lower-calorie option, like reduced-fat crackers, especially if weight loss is your goal. However, these crackers are usually highly processed carbs that do nothing to keep you satiated. Even though nuts are higher in fat (and calories), it's a satiating and heart-healthy unsaturated fat. Plus, nuts are waistline-smart. People who report eating nuts are less likely to gain weight over a five-year period, reports 2017 research in the *European Journal of Nutrition*. What does that mean for you? Don't be afraid to grab a handful of pistachios for a snack, top yogurt with slivered almonds or slather cashew butter on a sweet potato.

SWAP CEREAL FOR EGGS

Don't save eggs for a weekend treat. Unlike cereal, which often contains a hefty dose of added sugar (and may be made with refined grains), an egg has an impressive nutritional profile all wrapped up in a small package. Per egg, you'll get 70 calories, 6 grams of protein and 5 grams of fat, all of which make your meal satiating and satisfying. The yolks are also a source of the nutrient choline, which helps produce a neurotransmitter essential for memory and mood. What's more, mounting research is finding that egg consumption isn't linked to an increased risk of heart disease or diabetes, so eat up.

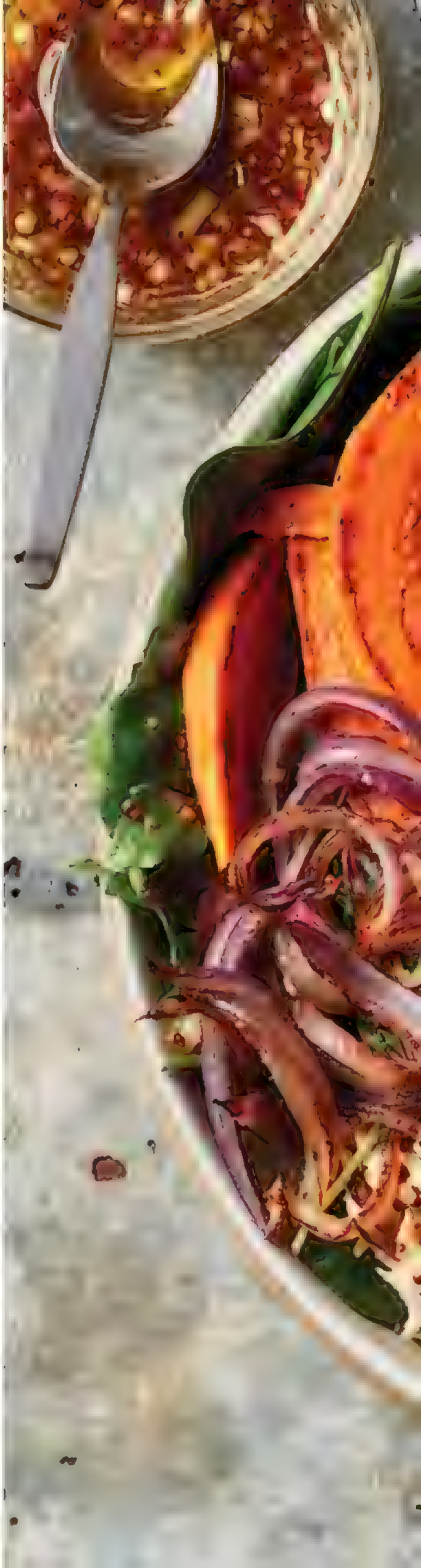
SWAP DIET SODA FOR KOMBUCHA

If the afternoon calls for a sip of something bubbly, trade your diet soda (which is sweetened with artificial sweeteners) for kombucha. The slightly sweet tea drink, often made from black or green tea, is fermented with bacteria and yeast and delivers a boost of healthy bacteria to your GI system. Most store-bought kombucha options are sweetened with fruit juice or herbs, and a single serving can pack as little as 2 grams of sugar. ●

LUNCH

Packable bowls, salads and sandwiches are a portable lunch dream. These recipes deliver a punch of superfood nutrition to power you all day long.

MEAL PLAN BY EMILY LACHTRUPP, M.S., R.D., C.D.



Quinoa Power Salad

ACTIVE: 20 min
TOTAL: 40 min
TO MAKE AHEAD: Prepare through Step 3 up to 2 days ahead. Refrigerate vegetables, chicken and dressing separately. Toss just before serving.

Make this satisfying salad in the evening and enjoy one portion for dinner, then pack the remaining portion for lunch the next day. This meal is loaded with protein- and fiber-rich ingredients like chicken, sweet potato and quinoa.

- 1 medium sweet potato, peeled and cut into ½-inch-thick wedges
- ½ red onion, cut into ¼-inch-thick wedges
- 2 tablespoons extra-virgin olive oil, divided
- ¼ teaspoon garlic powder
- ¼ teaspoon salt, divided
- 8 ounces chicken tenders
- 2 tablespoons whole-grain mustard, divided
- 1 tablespoon finely chopped shallot
- 1 tablespoon pure maple syrup
- 1 tablespoon cider vinegar
- 4 cups baby greens, such as spinach, kale and/or arugula, washed and dried
- ½ cup cooked red quinoa, cooled
- 1 tablespoon unsalted sunflower seeds, toasted

1. Preheat oven to 425°F. Toss sweet potato and onion with 1 tablespoon oil, garlic powder and ⅛ teaspoon salt in a medium bowl. Spread on a large rimmed baking sheet and roast for 15 minutes.

2. Meanwhile, add chicken and 1 tablespoon mustard to the bowl; toss to coat. When the vegetables have roasted for 15 minutes, remove from the oven and stir. Add the chicken to the pan. Return to the oven and continue roasting until the vegetables are beginning to brown and the chicken is cooked through, about 10 minutes more. Remove from the oven and let cool.

3. Meanwhile, whisk shallot, maple syrup, vinegar and the remaining 1 tablespoon oil, 1 tablespoon mustard and ⅛ teaspoon salt in the large bowl.

4. When the chicken has cooled, shred it and place in the bowl with the dressing. Add baby greens, quinoa and the roasted vegetables. Toss with the dressing and sprinkle with sunflower seeds.

SERVES 2: 3½ cups each
CAL 466 / **FAT** 21G (SAT 3G) / **CHOL** 63MG / **CARBS** 35G / **TOTAL SUGARS** 12G (ADDED 6G) / **PROTEIN** 29G / **FIBER** 6G / **SODIUM** 716MG / **POTASSIUM** 666MG

Avocado Egg Salad Sandwiches

ACTIVE: 20 min
TOTAL: 20 min

Lighten up classic egg salad by swapping in creamy avocado instead of using mayonnaise. Sandwich it between toasted whole-wheat bread and you've got an easy, packable lunch ready for work or school.

- ½ ripe avocado
- 1½ teaspoons lemon juice
- 1 teaspoon avocado oil
- 3 hard-boiled eggs, chopped
- ¼ cup finely chopped celery (about 1 stalk)
- 1 tablespoon snipped fresh chives
- ¼ teaspoon salt
- ⅛ teaspoon ground pepper
- 4 slices whole-wheat sandwich bread, toasted
- 2 leaves lettuce

Scoop the flesh from the avocado half into a medium bowl. Add lemon juice and oil to the bowl and mash until mostly smooth. Add chopped eggs, celery, chives, salt and pepper and stir to combine. Divide the mixture between 2 slices of toast. Top each with a piece of lettuce and another slice of toast.

SERVES 2: 1 sandwich each
CAL 350 / **FAT** 19G (SAT 4G) / **CHOL** 246MG / **CARBS** 30G / **TOTAL SUGARS** 4G (ADDED 3G) / **PROTEIN** 17G / **FIBER** 7G / **SODIUM** 642MG / **POTASSIUM** 547MG

Greek Kale Salad with Quinoa & Chicken

ACTIVE: 10 min
TOTAL: 10 min
Toss the cooked chicken into this healthy 5-ingredient salad recipe while it's still warm to lightly wilt the kale, making it softer and easier to eat. Store-bought dressing saves time, but you could also make your own.

- 4 cups chopped kale
- 1½ cups shredded cooked chicken
- 1 cup cooked quinoa
- ¼ cup sliced jarred roasted red peppers
- ¼ cup Greek salad dressing
- Crumbled feta cheese (optional)

Place kale, chicken, quinoa and roasted peppers in a large bowl. Add dressing and toss to coat. Top with feta, if desired.
SERVES 2: 2¾ cups each
CAL 301 / **FAT** 8G (SAT 2G) / **CHOL** 42MG / **CARBS** 27G / **TOTAL SUGARS** 2G (ADDED 0G) / **PROTEIN** 30G / **FIBER** 4G / **SODIUM** 378MG / **POTASSIUM** 316MG

Rainbow Buddha Bowl with Cashew Tahini Sauce

ACTIVE: 20 min
TOTAL: 20 min

This vibrant bowl is packed with nutrients that will help keep you feeling full for hours. Find pre-cooked lentils in the refrigerated section of the produce department.

- ¾ cup unsalted cashews
- ½ cup water
- ¼ cup packed parsley leaves
- 1 tablespoon lemon juice or cider vinegar
- 1 tablespoon extra-virgin olive oil
- ½ teaspoon reduced-sodium tamari or soy sauce
- ¼ teaspoon salt
- ½ cup cooked lentils
- ½ cup cooked quinoa
- ½ cup shredded red cabbage
- ¼ grated raw beet
- ¼ cup chopped bell pepper
- ¼ cup grated carrot
- ¼ cup sliced cucumber
- Toasted chopped cashews for garnish (optional)

1. Combine cashews, water, parsley, lemon juice (or vinegar), oil, tamari (or soy sauce) and salt in a blender. Blend until smooth.

2. Place lentils and quinoa in the center of a shallow serving bowl. Top with cabbage, beet, pepper, carrot and cucumber. Spoon 2 tablespoons of the cashew sauce over the top (save extra sauce for another use). Garnish with cashews, if desired.

SERVES 1

CAL 361 / **FAT** 10G (SAT 2G) / **CHOL** 0MG / **CARBS** 54G / **TOTAL SUGARS** 9G (ADDED 0G) / **PROTEIN** 17G / **FIBER** 14G / **SODIUM** 139MG / **POTASSIUM** 941MG

Green Salad with Edamame & Beets

ACTIVE: 15 min
TOTAL: 15 min
TO MAKE AHEAD: Refrigerate salad and dressing separately for up to 2 days; whisk dressing before drizzling over the salad.
This big salad incorporates nutrient-rich beets and plant-based protein from edamame (green soybeans). If you're not a fan of cilantro, mix in freshly chopped basil or dill instead.

- 2 cups mixed salad greens
- 1 cup shelled edamame, thawed
- ½ medium raw beet, peeled and shredded (about ½ cup)
- 1½ tablespoons red-wine vinegar
- 2 teaspoons extra-virgin olive oil
- 1 tablespoon chopped fresh cilantro
- ½ teaspoon coarse kosher salt
- Freshly ground pepper to taste

Arrange greens, edamame and beet on a large plate. Whisk vinegar, oil, cilantro, salt and pepper in a small bowl. Drizzle over the salad.

SERVES 1

CAL 325 / **FAT** 16G (SAT 1G) / **CHOL** 0MG / **CARBS** 25G / **TOTAL SUGARS** 6G (ADDED 0G) / **PROTEIN** 14G / **FIBER** 12G / **SODIUM** 682MG / **POTASSIUM** 499MG

CHAPTER 3

A LIFESTYLE THAT LASTS

Making superfoods a central part of your diet—and keeping them there—can deliver a range of long-term benefits.

IN SEARCH OF THE ANTI-AGING DIET

Sharper minds, healthier skin and more? Certain foods help us live not only longer but better lives.

BY SUNNY SEA GOLD

The oldest man ever to live had a motto: "Eat light to live long." Jiroemon Kimura, who died in 2013 at age 116, was from a seaside fishing and farming city in Japan. Kimura's hometown comes as no surprise to Dan Buettner, the *National Geographic* explorer who first identified "Blue Zones"—including areas of Japan, Costa Rica and Greece—as regions of the world where people live the longest, healthiest lives. There are many factors that go into the magic of these real-life fountains of youth, such as social support, spirituality and active work, but according to Buettner, diet is high on the list.

"What we eat affects all of the tissues in our bodies, from the quality of our skin to the sharpness of our brains," says Karen Ansel, M.S., a registered dietitian in Long Island, New York, and the author of *Healing Superfoods for Anti-Aging*. This has a huge impact on whether or when we succumb to common diseases of aging, such as cardiovascular

disease, cancer and diabetes. In fact, a new global study published in *The Lancet* found that 1 in 5 deaths—from illnesses such as cancer, heart disease and stroke—is attributable to diet, mainly from eating too few whole grains, nuts, seeds and fruits.

Here's what the latest science says about how food works this anti-aging magic and which superfoods you should add to your plate.

How Diet Affects Your DNA

The genes you inherit are fixed—you have the DNA you have. But a wide variety of factors in your environment can change which of your genes will be "expressed" and which will not. This process is called epigenetics, and it has been linked to several important factors in how well someone ages. Psychological stress, trauma, tobacco and alcohol use, environmental pollution and what you eat all have epigenetic effects. The most sensitive time for dietary ones is when you're developing in the womb, but there is plenty of evidence showing that what you eat can make alterations too, says David Sinclair, Ph.D., a co-director of the Paul F. Glenn Center for the Biology of Aging at Harvard Medical School in Cambridge, Massachusetts. "The epigenetic 'clock' is slower in people who eat well," he says. In other words, eating nutritious food can change the way your genes are expressed and therefore your risk of age-related illnesses like heart disease and cognitive issues.

You can be in the fast lane, headed toward illness and aging at a quicker pace, says Elissa Epel, Ph.D., or hang out in the slow lane and take your time.

A lot of nutritional epigenetic research is done in animals and petri dishes, but one study in humans found evidence of positive epigenetic changes in the cells of folks three to six hours after they ate about ¾ cup broccoli sprouts (tiny sprouts of broccoli plants that look like alfalfa). Folic acid, vitamin B_{12} and polyphenols from plants such as broccoli sprouts and green tea are all known to play key roles in an epigenetic process called DNA methylation.

JIROEMON KIMURA LIVED IN KYOTANGO, A SEASIDE REGION IN JAPAN. ACCORDING TO THE U.N., JAPANESE PEOPLE ARE MORE LIKELY TO REACH 100 YEARS OLD THAN ANYONE ELSE IN THE WORLD.

RECOGNIZABLE BY ITS PALE JADE-GREEN SPOON-SHAPED STEMS, BABY BOK CHOY IS ABOUT 3 INCHES IN LENGTH AND STIR-FRIES QUICKLY

Sinclair believes that epigenetics may turn out to be a key way to prevent and reverse aging. He estimates that life span is only 20% genetically determined; the other 80% is epigenetic. "This can be controlled by how we live our lives," he says. According to Sinclair, exercise, combined with eating the right foods, can have a major impact on how healthy you are in your old age.

What Are Telomeres, and What Have They Got to Do with What You Eat?

Telomeres are a bit like the plastic caps at the end of shoelaces—they sit on the end of your chromosomes and help keep the DNA within them from being damaged. The passing of time naturally shortens those caps, says Elissa Epel, Ph.D., director of the Aging, Metabolism and Emotion Center at the University of California, San Francisco. But there's evidence that telomeres may be protected by what we eat. In a large study published in the *American Journal of Epidemiology* in 2018, Epel and her colleagues found that women who adhered most closely to four different high-quality diets—all generally high in plant proteins, fruits and vegetables and low in sugar, salt and red meat—had longer telomeres. Another of Epel's studies, this one published in 2013, linked longer telomere length with higher blood levels of omega-3 fatty acids like those from fatty fish. Nutrition may influence the telomeres through multiple mechanisms, such as reducing insulin resistance and calming inflammation in the body, she says.

Shorter telomeres are associated with an increased risk of heart disease and many different cancers, from melanoma to kidney cancer. They don't necessarily cause aging or disease, but they act as a sort of throttle for how fast you'll get there, says Epel. You can be in the fast lane, headed toward illness and aging at a quicker pace, she says, or hang out in the slow lane and take your time.

The Antioxidant Answer to Aging

Breathing, breaking down calories into energy, walking down the street—these everyday actions all create free radicals, volatile atoms that are by-products of natural chemical processes in the body. Basically, these are atoms that have lost electrons that they need to remain stable, so they bounce around, scavenging electrons from your cells and other tissues, weakening cell membranes and damaging DNA. If free-radical damage outpaces your body's ability to repair it, that leads to "oxidative stress," a condition that contributes to aging skin and conditions like arthritis, heart disease, Alzheimer's and Parkinson's. Environmental toxins, air pollution, UV rays and many other external factors lead to oxidative stress as well.

Antioxidants are thought to neutralize overzealous free radicals by donating their own electrons to the hungry little beasts. Our body makes some of its own antioxidants, but the rest—things like vitamins C, E and beta carotene; selenium; co-enzyme Q10; and plant chemicals known as polyphenols and phytoestrogens—we get from food, says Ansel. Perhaps unsurprisingly, famously healthy dietary patterns, like traditional Japanese, Mediterranean and other Blue Zone diets, are built on vegetables and whole grains that are excellent sources of antioxidants.

Studies have linked blueberry intake, for example, with better cholesterol, lower blood pressure, and lower risk of heart disease.

Vitamins that act as antioxidants—A, C and E—also have key roles in keeping your skin healthy and younger looking, says Ansel. "Vitamin A is critical for overall skin health, while C helps produce collagen, the structural protein that keeps skin strong, supple and reduces sagging," she explains. "Vitamin E is the most abundant antioxidant in your skin, helping to protect it from the sun."

Another skin-friendly antioxidant: lycopene. "Tomatoes are our top source of lycopene, so I recommend eating them every day," Ansel says. "And they don't need to be fresh either, since cooking and processing breaks down lycopene to a form that makes it easier for the body to absorb." If you're not a big fan of tomatoes, you can also find lycopene in pink grapefruit, guava and watermelon.

The Anti-Aging Superfoods Everyone Should Eat

No one magic berry or sprout can make you healthier, stronger or live longer, says Ansel. But research does suggest that some foods—like those that commonly appear in traditional Blue Zone diets—may be particularly potent.

Berries are perhaps the world's most-researched superfood. Blueberries, blackberries and strawberries are packed with plant chemicals called polyphenols that act as strong antioxidants in the body. Studies have linked blueberry intake, for example, with better cholesterol, lower blood pressure and a lower risk of heart disease. They may boost brain health, too, says Ansel. "We don't often hear about it, but our brains produce a protein, called tau, that is linked to the development of Alzheimer's disease," she explains. "When we're young, our brains are very adept at breaking tau down, but as they age, our ability to dismantle it diminishes, increasing the risk for Alzheimer's. Berries contain compounds believed to kick-start this process, helping you break down Alzheimer's-inducing tau as if your brain was young again."

Omega-3 fats, like those in salmon, tuna and mackerel, are linked with better brain and heart health and a lower risk of cancer.

Ansel has always loved berries but says she now makes a conscious effort to eat them every single day, often with oatmeal or Greek yogurt at breakfast. "If they're not in season, I'm a huge fan of frozen berries. I always keep a bag in the freezer to microwave, which turns them into a warm, gooey sauce that's fantastic over hot cereal."

Like berries, green tea is full of polyphenols. Drinking it has been linked with a lower risk of breast, ovarian, prostate and pancreatic cancers. A particular polyphenol in green tea known as EGCG has been found to have both antioxidant properties and the ability to produce positive epigenetic changes. When it comes to hot or cold drinks, Ansel notes that coffee's no slouch either: "Coffee gets a bad reputation, but it's one of the top sources of antioxidants in our diets, particularly chlorogenic acid, an antioxidant that is believed to reduce the risk of type 2 diabetes by helping our bodies use insulin more efficiently."

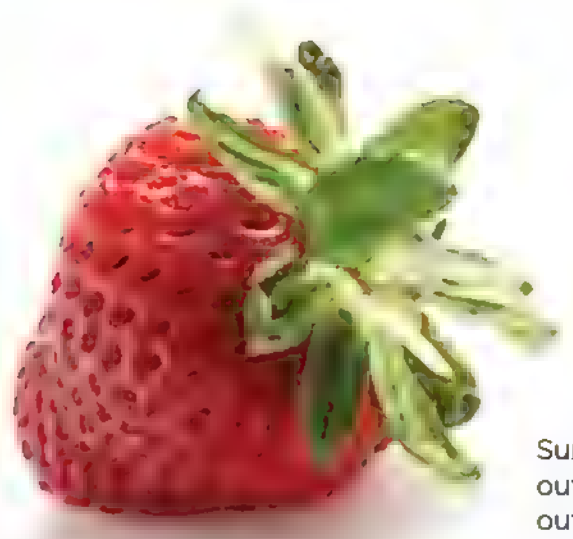
Also good medicine: cauliflower, kale, broccoli, collards, Brussels sprouts, bok choy and cabbage—all cruciferous vegetables that are members of the mustard plant family. They contain substances called isothiocyanates that have anticancer properties. Eating more of these veggies is linked with a lower risk of several cancers, including tumors in the colon, breast and lungs.

Nuts feature prominently in famously healthy diets like the Mediterranean diet, and eating them has been linked to improvements in blood-sugar control, blood pressure and artery health, among other health benefits. Not only do they have healthy unsaturated fats, but nuts are also a good source of selenium, a trace mineral found in soil that appears to have positive epigenetic effects and anticancer properties. One large, long-term study published in the *New England Journal of Medicine* found that people who ate at least an ounce of nuts a day had a 20% lower risk of dying of cancer, heart disease and other illnesses compared with those who did not eat any nuts.

Finally, there's the all-important fatty fish. Omega-3 fats, like those in salmon, tuna and mackerel, are linked with better brain and heart health and a lower risk of cancer. Research suggests that they may work in numerous ways, including by modulating gene expression and shoring up cell membranes. "Even though I've known for years that it's important to eat at least two servings a week of fish for heart health, the research that I've done has been a powerful reminder of how important fish is for optimal health," says Ansel.

She has two strategies to make sure she gets more seafood in her diet: "The first is to order fish whenever I eat out because I know the fish will be expertly prepared, plus restaurants have access to so many more interesting varieties than I'm likely to." The other is to eat canned tuna or salmon once a week for lunch. "They're so underrated as an easy way to work in omega-3s. To make them even heart-healthier—and more delicious—I fold in half a mashed avocado instead of mayo." ●

MANY EXPERTS RECOMMEND CAPPING YOUR CAFFEINE AT 400 MG A DAY, WHICH IS ABOUT FOUR CUPS OF HOME-BREWED COFFEE. GOOD NEWS: THAT'S WHAT MOST AMERICANS DRINK ALREADY.



Foods for Beautiful Skin

Keep your skin looking younger—and lower your risk of skin cancer—with these foods.

BY BRIERLEY WRIGHT HORTON, M.S., R.D.

Sunscreen helps keep your skin healthy and beautiful, protecting it from the outside in, but some foods can shield your skin from damage from the inside out. In fact, research supports the idea that certain vitamins help protect our skin. Better yet, many of the same foods that can boost your defenses against skin cancer (the most common type of cancer) will also help keep your skin looking younger and smoother and ward off wrinkles.

JUST 1 CUP OF STRAWBERRIES HAS A HEFTY 3 GRAMS OF FIBER AND MORE THAN A FULL DAY'S RECOMMENDED DOSE OF VITAMIN C.

STRAWBERRIES

Eating more foods rich in vitamin C, such as strawberries, may help fend off wrinkles and age-related dryness. Vitamin C's skin-smoothing effects may be due to its ability to mop up free radicals produced from ultraviolet (UV) rays and to its role in collagen synthesis. Collagen is a fibrous protein that keeps skin firm, and vitamin C is essential for collagen production.

SALMON

The omega-3 fatty acids DHA and EPA found in salmon may shield cell walls from free-radical damage caused by UV rays, according to a study published in the *American Journal of Clinical Nutrition*. Researchers followed the eating habits of more than 1,100 Australian adults for approximately five years and found that for those who ate a little more than 5 ounces of omega-3-rich fish—such as salmon—each week, the development of precancerous skin lesions decreased by almost 30%. Aim to eat two servings of fatty fish each week: not only are the omega-3s good for your skin, but they're good for your heart too.

TOMATOES

Consuming more lycopene—a carotenoid that makes tomatoes red—may protect your skin from sunburn. Researchers think that the natural compound helps protect tomatoes from the sun—and, in turn, you. Multiple studies have linked higher tomato consumption with reduced sunburn and skin reddening. Just one bad sunburn can increase your risk for skin cancer. Adding olive oil—a natural culinary pairing for tomatoes—helps your body absorb the beneficial carotenoids. Cooked tomatoes (a pantry staple) have a higher antioxidant and lycopene content as well.

COFFEE

Drinking a single cup of coffee daily may lower your risk of developing skin cancer. In one study of more than 93,000 women, published in the *European Journal of Cancer Prevention*, those who drank one cup of caffeinated coffee every day reduced their risk of developing nonmelanoma skin cancer by about 10%. Decaf didn't seem to offer the same protection.

TOFU

Tofu may help preserve skin-firming collagen because it is rich in isoflavones. Isoflavones are plant-based compounds with estrogenic activity that have been shown to potentially reduce the risk of breast and prostate cancers, heart disease and osteoporosis. In a study published in the *Journal of the American College of Nutrition*, mice that were fed isoflavones and exposed to UV radiation had fewer wrinkles and smoother skin than mice that were exposed to UV light but didn't get isoflavones. The researchers believe that isoflavones help prevent collagen breakdown. ●

PAIR ROAST CHICKEN, A STAPLE IN DIETS LIKE KETO AND PALEO, WITH SUPERFOOD VEGGIES FOR A HEALTHY AND BALANCED MEAL.

THE TRUTH ABOUT HEALTH HYPE AND SUPERFOODS

Which buzzworthy diets are actually good for you? And how do trendy superfoods fit into real-life healthy eating?

BY EMILY JOSHU

A basic Google search for "most popular diets" garners a wealth of results dubbed with catchy names, trendy supermarket finds and repeated claims to be the "best yet." Paleo, ketogenic (or keto), Whole30 and Mediterranean all fill recent headlines and cookbook titles, and the fad-diet phenomenon shows few signs of slowing down. According to NPD Decision Key, searches for the "Pegan diet," a hybrid of paleo and vegan eating patterns, rose 337% in the second half of 2018. Additionally, 2018 showed a 228% increase in sales of low-carb cookbooks, such as *The Complete Ketogenic Cookbook for Beginners.*

Not all of these popularized eating patterns are created equal, and some may not have earned the same health halos as others. In 2019, *U.S. News and World Report* evaluated 41 of the most renowned diets, ranking the versatile and well-established Mediterranean diet as the healthiest overall, with a 4.2 (out of 5) "healthy" rating and the DASH diet as a close second. Meanwhile, paleo trailed at number 33, and keto and Whole30 tied at 38.

And while some über-trendy superfoods have become increasingly popular, traditional mainstays could have just as many, if not more, nutrients. From low-carb to 30-day to protein-packed, here is a look at the health and hype of the most popular diets.

The Truth About Elimination Diets

Also known as the "caveman diet," the paleo diet prioritizes eating the foods of our ancestors in the Paleolithic era, such as unprocessed animal proteins—beef, chicken and salmon, for instance—oils and nuts. Yet its low-fiber philosophy results in

cutting out healthful legumes like lentils and beans, whole grains and dairy. While short-term studies have shown evidence of significant weight loss for those on the paleo diet, research has yet to reveal the diet's long-term impact. However, in 2019, researchers from Edith Cowan University in Australia studied 44 paleo dieters and found that those participants had twice the amount of a biomarker commonly associated with heart disease than participants who followed a traditional Australian diet.

The keto diet, which, like paleo, is one of the most widely recognized and fastest-growing modern diet movements, also touts quick-fix weight loss, in this case through the process of ketosis. A metabolic state in which the body gets most of its fuel from fat rather than carbohydrates, ketosis occurs when the body receives limited amounts of glucose. This means drastically cutting down on carbs so that they make up 5% to 10% of your daily nutrients, while fat constitutes 60% to 80%. Therefore, the keto eating pattern lacks legumes, fruits and grains while spotlighting red meat, eggs and healthy fats, such as olive oil and avocados. Like paleo, keto lacks long-term research to prove its effectiveness for weight loss and a healthy nutritional profile, but it may control seizures in patients with epilepsy. "I've seen people who could not work, who could not go to college, any number of things because their epilepsy was so bad, and when they followed the ketogenic diet, it's almost like they are given a whole new life," says Liz Weinandy, M.P.H., a registered dietitian at The Ohio State University Wexner Medical Center.

Many turn to diets such as keto to keep the pounds off permanently, but these patterns are meant to be followed for only a few weeks.

Weinandy, however, discourages patients from adopting keto primarily to lose weight due to the diet's high levels of saturated fat, which can raise cholesterol and lead to an increased risk of heart disease. In fact, a 2018 study presented at the European Society of Cardiology Congress suggested that people on the lowest-carb diets, such as keto, had the highest risk of death from cancer and heart disease. That same year, *The Lancet* published a study that found that people who followed low-carb, high-animal-protein diets had a higher risk of early death compared with those who moderately consumed carbs. Many experts, though, believe that long-term research is still needed to determine keto's full effects, such as sustainable weight loss. While decreasing unhealthy carbohydrates, such as white bread and pasta, can lead to an overall healthy diet, keto's carb-cutting is more extreme and lacks a middle ground between high- and low-carb loads. "People think they have to do something really severe, and the ketogenic diet is extremely strict in what you can and can't eat, pushing those carbs way down," Weinandy says.

Another popularized eating program is Whole30, a month-long diet that emphasizes whole fruits and vegetables, much like paleo. Developed in 2009 by certified sports nutritionists Dallas and Melissa Hartwig with the goal of resetting metabolism and reshaping participants' relationship with food, Whole30 does not require you to track your calories, and stepping on the scale is off-limits until the month is over. However, like paleo, it comes with a strict set of rules that involve cutting all alcohol, sugar, grains and dairy. Smoking is also highly discouraged. After 30 days, you can slowly reintroduce some of your most-missed foods with the goal of measuring how they affect your body, including factors like inflammation, gut disturbances and hormone imbalances. Additionally, some people use this diet to identify food allergies or sensitivities when they begin reintroducing these items into their eating patterns.

As with paleo and keto, cutting out entire food groups could mean cutting several superpowered staples from your plate. A 2016 study in the *British Medical Journal*, for example, found that whole grains were linked to a lower risk of heart disease, cancer and diabetes. Additionally, a 2015 study in *Scientific Reports* found no strong reason to reduce legume consumption. From a weight-loss perspective, like other elimination-based diets, experts view Whole30 as a temporary fix rather than a sustainable approach to eating. "Whole30 is not meant to be done forever; it's called Whole 30 because it's 30 days, so there's really no reason

A SINGLE SERVING OF KALE (1 CUP) PROVIDES 684% OF THE RECOMMENDED DAILY VALUE OF VITAMIN K AND 206% OF VITAMIN C.

UNLIKE THE PALEO DIET, THE MEDITERRANEAN AND DASH DIETS EMBRACE LEGUMES LIKE BEANS, WHICH ARE HIGH IN PROTEIN, FIBER AND IRON.

to be so restrictive for 30 days and then try to segue into a balanced diet," says Leah Holbrook, M.S., R.D., clinical instructor in the Department of Family, Population and Preventative Medicine at Stony Brook Medicine.

Many dieters may turn to plans like keto to keep the pounds off permanently, but these patterns are meant to be followed for only a few weeks rather than months or years because they focus so strongly on the elimination of entire food groups. The restrictive demands of these eating patterns could also lead to feelings of guilt and the view that dieting or healthy eating is an obligation rather than a choice. Dieters could feel admonished for the occasional indulgence and confused about what the diets say they can and cannot eat. "You really don't have a healthy diet unless you have a healthy relationship with food, and I think that [with] people who have a fear-based approach to food, it can be a way of exacerbating an unhealthy relationship with food," says Matt Fitzgerald, a sports nutritionist and the author of *Diet Cults*. "The diets that demonize particular nutrients or food groups play into that." The more positive alternative to exclusion-based dieting, Weinandy says, is to focus more on foods to add to our diet quality rather than what needs to be cut.

The Truth About Superfood Diets

Unlike the paleo and keto diets, the Mediterranean diet is bolstered by an array of superfoods: leafy greens, healthy fats, such as those you can get from olive oil, and protein-packed fish, such as salmon, as well as nuts and whole grains. "When you compare [the Mediterranean diet] to what many people do eat in this country, the whole diet is almost at that superfood level. It includes fiber, it includes the most helpful fats, it includes food that can be easily and simply prepared at home, and it's connected to all the things that seem to help us live longer and live healthier," Holbrook says. While this eating pattern has gained popularity in recent years through mainstream media and books like *The Complete Mediterranean Cookbook*, its origins date back centuries, all the way to the Middle Ages.

Weinandy compares the well-established Mediterranean diet to the recommendations in the U.S. Dietary Guidelines, which call for a diet filled with a variety of leafy greens, legumes, fruits, whole grains, dairy, lean meats, eggs and seafood. Additionally, the DASH (Dietary Approaches to Stop Hypertension) diet, which similarly emphasizes consumption of whole grains, fruits and vegetables, may be nutritionally beneficial. An abstract presented at the 2018 American Academy of Neurology annual meeting states that 964 elderly participants who followed the DASH diet for 6½ years showed lower rates of depression than those who followed a more traditional Western diet. The recommendations of the DASH diet also directly contradict the severe reductions promoted by paleo and keto, which makes DASH flexible when cooking at home, eating at restaurants or traveling. "I see people who are on diets or having diets of eating only one hour during the course of the day or during certain times of the day or eliminating whole food groups. That's very ostracizing for someone unless everybody they know is eating in this similar fashion," says Bonnie Taub-Dix, R.D.N., the creator of the website Better than Dieting and author of *Read It Before You Eat It*. "You could eat a Mediterranean diet by going to a restaurant or eating at home or eating at a friend's house or at work—wherever. It's something that is realistic and makes sense."

Whether it's a spotlight-stealing superfood or an old standby, moderation is key to introducing a more colorful variety to your plate.

Unlike paleo and keto, the Mediterranean eating pattern more closely resembles a flexible lifestyle plan rather than a short-term diet. You most likely won't drop 20 pounds in a month, but following a superfood-filled Mediterranean plan has more potential to set you up for long-term weight loss and maintenance. "You can lose weight on a balanced diet the whole time if you're doing it properly," Holbrook says. This means that whether you're looking to adopt a specific diet or take steps toward generally healthier eating, a Mediterranean pattern could be the most flexible, colorful and sustainable. Holbrook says, "[The Mediterranean diet] will, by default, include a variety of superfoods without even trying." ●

Healthy Food Trends That Stand the Test of Time

Certain foods have generated media coverage or have sent the food world buzzing. Here are foods that have had a moment but have proven to be true superfood staples.

BY JESSIE PRICE, CASSIDY TAWSE-GARCIA AND BRIERLEY WRIGHT HORTON, M.S., R.D.

HEIRLOOM TOMATOES
Old varieties of tomatoes are becoming kitchen staples. Names like Gold Nugget, Aunt Ginny's Purple, Big Ben and Red Zebra are now showing up in your neighborhood market. Like all tomatoes, they are excellent sources of vitamin A, which helps keep your vision and bones healthy.

ALMOND MILK
At the grocery store, your milk choices go beyond what cows produce. Plant-based "milks" are increasingly popular. If you find yourself wandering into the alternative-milk category, go for almond milk. It's naturally high in calcium, and if you buy one fortified with vitamin D, it's comparable to cow's milk. Per cup, almond milks deliver fewer calories than cow's milk (60 to 80) and, depending on the brand, potentially slightly less protein (2 to 9 grams versus 8 to 9 in cow's milk). One cup of almond milk also has 2.5 to 4.5 grams of fat, 0 to 0.5 gram of saturated fat, 5 to 11 grams of carbohydrates, 0 to 4 grams of fiber, 20% to 30% of your daily recommendation for calcium and up to 25% of your daily needs for vitamin D.

AMARANTH
Quinoa is having its day in the sun, but amaranth, another whole grain, deserves a mention. It's a boon for vegetarians because it's high in both iron and zinc, nutrients that can be tough to get into a vegetarian diet, as well as protein. It's also rich in calcium and magnesium, and it's gluten-free. Grown as an ornamental for its pretty blooms as well as for its grains, amaranth grains have been cultivated in Central America for an estimated 5,000 to 8,000 years. When cooked, amaranth has a thick, porridge-like texture—great in soups, stews, breakfast porridge and puddings.

FARRO
With the growing focus on whole grains, ancient grains like farro are gaining a following. Farro is a type of wheat traditionally used in Italy, with a chewy, satisfying texture and a nutty flavor. This whole grain can be incorporated into salads, soups and side dishes.

COCONUT FLOUR
The popularity of coconut doesn't end with hot-right-now coconut water and coconut oil. Coconut flour is a healthy way to add decadent coconut flavor to baked goods. As for its health benefits, coconut flour packs a whopping 5 grams of fiber per 2 tablespoons (with only 2 grams of total and saturated fat), and it's gluten-free. Coconut flour has health benefits for people with diabetes, too: adding it to baked goods lowers the glycemic index (a measure of the rate at which a food increases blood sugar). In your market, look for coconut flour near other gluten-free flours.

FLAXMEAL
The health community is buzzing about omega-3 fatty acids. Flaxseed and flaxmeal (ground from flaxseed) are rich in alpha-linolenic acid (ALA), a plant-based omega-3. ALA may help lower inflammation and increase blood flow in the body, reducing the risk of high blood pressure and blood clots. Try sprinkling flaxmeal on your morning cereal.

CHIA
Health-conscious eaters are getting serious about—and going crazy for—chia seeds (yes, like the "pets"). It's no wonder: they provide as much protein as some nuts, as well as heart-healthy ALA. Per tablespoon, chia delivers 2 grams of protein, 4 grams of fiber and 1.75 grams of ALA. Chia seeds may have celebrity status as the newest superfood fad, but they've been around for centuries (they were prized by the Aztecs).

AGAVE
Derived from the same plant used to make tequila, agave syrup has generated lots of buzz recently. Also

SEEK OUT SEVERAL VARIETIES OF COLORFUL HEIRLOOM TOMATOES FOR A SIMPLE SALAD.

known as agave nectar, it has a deep, rich flavor that is slightly sweeter than honey. It's touted for its low glycemic index (GI) value, meaning it won't spike your blood sugar like high-GI table sugar.

ISRAELI COUSCOUS
Israeli couscous—a round semolina pasta, bigger than regular couscous—is great in soups, salads and pilafs. The small spheres are toasted, not dried, so they have a textured, nutty bite. Choose whole-wheat options to get the extra heart-healthy whole grains.

NUT BUTTERS
Peanut butter may be the first thing that comes to mind when you hear "nut butter," but today there are many varieties found right next to that old standby. And they have different nutrition profiles: 2 tablespoons of almond butter provide 75% of your daily recommended value of vitamin E, which may help fight damage-causing free radicals. Cashew, walnut and hazelnut butters can add exotic flavors to your next snack, and they're packed with 5 grams of protein per 2-tablespoon serving.

SEAWEED
Dulse (say it like "pulse") is one example of a growing infatuation with eating seaweed. This family of nutrient-packed sea vegetables has been turning up everywhere from school lunches (where savvy parents swap it for potato chips) to gourmet restaurant fare. Why all the love? Dulse is a good source of potassium and iron. ●

THE POWER OF OMEGA-3S

New research on omega-3 fats continues to make headlines—often highlighting why these fats are superfoods. But what exactly are omega-3s, which foods are rich in them, how much should we eat and what's the best way to meet that quota?

BY BRIERLEY WRIGHT HORTON, M.S., R.D.

It's before 6 a.m., and I can smell the freshly brewed coffee that I can't yet drink. First I have to fill four empty circles on a little piece of paper with blood from my finger. But—staring down two lancets—I can't bring myself to prick my finger. Instead, my husband picks up both the lancets, grabs one of my fingers and then prepares (practically gleefully) for this surgery-esque moment.

My goal is to learn what my omega-3 blood levels are. Omega-3 fats are the structural material of virtually every cell in our bodies. There are three main types of omega-3 fats—EPA (eicosapentaenoic acid), DHA (docosahexaenoic acid) and ALA (alpha-linolenic acid)—also known as polyunsaturated, or "healthy," fats. They are perhaps best known for their heart-health benefits. The science is particularly strong in the roles that two of them—EPA and DHA—play in heart health. But research suggests that all three types of omega-3s offer much more beyond that, from brain health to eye, skin and hair health. And one study found that inadequate omega-3 intake might shorten your life span and could be more dangerous than consuming a lot of trans fat (aka partially hydrogenated oils).

Omega-3s are essential fats, meaning our bodies can't make them and therefore we must get them from our diet. The recommended daily dose of omega-3s (really EPA and DHA) has a wide range depending on the governing body: from 250 to 1,000 mg per day for the general population. And at least one group, the American Heart Association, translates that into a diet recommendation: eat two (3- to 5-ounce) seafood servings every week. But only 1 out of every 10 consumers

+

BAKING A LARGE SALMON FILLET IS A GREAT WAY TO FEED A CROWD. THERE'S NO STOVETOP COOKING, AND CLEANUP IS A BREEZE.

+

CANOLA, PEANUT AND SESAME OILS PROVIDE MODERATE AMOUNTS OF OMEGA-6S (2.7, 4.3 AND 5.6 GRAMS PER TABLESPOON, RESPECTIVELY).

actually meets that target. Plus, the "standard American diet" includes far less omega-3 fats than what's considered optimal. Learning this—and being reminded of the benefits of omega-3s—spurred me to get my levels checked.

When my test results were ready, Doug Bibus, Ph.D., president of Lipid Technologies, emailed me my numbers, and a few days later we got on the phone to talk through them. Turns out, I'm merely average (a sad reality for someone who legitimately loves seafood and is a nutritionist). My total omega-3 score was 5.3%; the typical score for an American is 4.8%, but the target level is more than 9%, a number I'm fairly far from.

Another routine part of the test was to assess my ratio of omega-6s to omega-3s. Omega-6s are omega-3s' lesser-known cousins, and, like omega-3s, they are also essential. Omega-6s primarily come from nuts; seeds; plant-based oils, such as vegetable and soybean; and many processed foods (crackers, salad dressings, fried foods) made with these ingredients. For a long time there's been advice to shun the 6s because of their inflammatory properties. But not all inflammation is bad; inflammation helps blood clot, for example, and heal cuts. It's when our 6-to-3 ratio is too far out of balance—according to some research—that there might be concern. And, in general, Americans seem to be shifting their intake toward consuming more omega-6s than 3s: the ratio used to be close to 1-to-1; the average American's is now 8.1-to-1. My results showed my ratio to be 7-to-1, and the target is less than 5-to-1.

And so the eager nutritionist in me immediately wanted to troubleshoot with Bibus how to improve my omega-3 levels and shift my omega ratio.

ON OUR CALL, DR. BIBUS SUGGESTED A SUPPLEment, and I knew it would have to be in gummy form because I have a thing about swallowing pills. But those gummies, to me, taste wretched. So I pivoted: "I really want to do this as much as possible with food." We spent the rest of the call brainstorming "sneaky" ways to boost my omega-3 intake: time to switch to omega-3-fortified milk and omega-3-enriched eggs, try out some flaxseed-infused baked goods and ante up for grass-fed dairy.

With more than 27,000 published studies on omega-3s, they're one of the most researched nutrients. Early data showed a correlation between omega-3s and lower rates of cardiovascular disease in Greenland's native peoples. It was these (now-debunked) findings that initially spurred more research.

The strongest data are still with heart health and triglyceride management, which also benefits your heart. One study found that 4 grams of EPA/DHA a day significantly lowered triglycerides and very-low-density lipoprotein (VLDL, the really bad type of lipoprotein that's been referred to as BBs to your arteries). Consuming those 4 grams also raised "good" HDL cholesterol and lowered total cholesterol. In addition, omega-3s might lower blood pressure, slow the growth of plaque in your arteries and even decrease abnormal heart rhythms.

It's not just your heart that benefits from a healthy dose of omega-3 fats. The research on cognitive decline appears promising (those with brain diseases typically do have lower levels of omega-3s). The premise of this research is that omega-3s are important fats within the brain, with unsaturated fats making up about a quarter of total brain fat, nearly all of which are from DHA. That being said, research isn't clear yet if adding more omega-3s to one's diet can slow or prevent cognitive-disease progression. Data also suggest that fish oil might play a role in eye health because, like the brain, most of the lipids in our eyes are DHA.

By upping your seafood intake, you'll get more good-for-you omega-3s as well as key nutrients, such as selenium, vitamins B_6 and B_{12}, and iron.

But—as with most nutrition science—there are skeptics. Some studies in the past few years suggest that omega-3s, at least in supplement form, might not be a "magic bullet," as they're often sold. For example, a literature search published in 2016 concluded that the evidence is lacking to support routinely taking omega-3 supplements to prevent cardiovascular disease. And a meta-analysis published in 2012 in the prestigious journal *JAMA* found that omega-3 supplementation

was not associated with fewer deaths from stroke or any other cause.

The key is considering all the data. Although some studies and reviews haven't shown promise, others clearly do. And generally, getting omega-3s from food seems to be a safe bet. In Japan and Greenland, where seafood is aplenty, data show that residents have some of the highest omega-3 levels and the lowest rates of cardiovascular disease.

That said, surveys suggest we aren't eating enough oily fish: Americans' median intake of fish high in omega-3s is about 0.15 ounce a day. So for some, adding a supplement to your regimen might be worth talking to your doctor about.

By upping your seafood intake, you'll get more good-for-you omega-3s as well as other key nutrients, such as selenium, vitamins B_6 and B_{12}, and iron. Some of the omega-3-rich fish that we gravitate toward (mackerel, swordfish and most tuna) are also a source of mercury, mostly in the form of methylmercury. Too much methylmercury in your body can hinder neurodevelopment (in unborn and young children); cause numbness and tingling in your mouth, hands and feet; make it difficult to think clearly; and even cause you to lose your hair. It's scary, but don't banish seafood from your plate.

If you follow the USDA's Dietary Guidelines and eat at least 8 ounces of seafood a week, making some of your choices lower-mercury fish (shrimp, tilapia, trout), you should be fine, even if you're pregnant or breastfeeding. (Also, farmed fish generally have less mercury than their wild counterparts.)

Want to be more cautious? Use the Environmental Working Group's Seafood Calculator for a custom dietary recommendation based on your weight, age and gender. Generally, though, research is fairly conclusive that the benefits of eating more seafood outweigh the risks. Plus, ocean fish and shellfish are full of the mineral selenium (17 of the top 25 selenium-rich foods are seafood), which binds to mercury, reducing its negative effects.

After that sobering call with Bibus, I forced myself to take a daily omega-3 gummy despite not being much of a supplement gal. I also doubled down on all things omega-3: I got more serious about eating biweekly seafood meals, I traded my usual milk and eggs in for omega-3-enriched versions, I picked up butter and yogurt made with grass-fed milk, and I made (omega-3-rich) canola oil my go-to cooking oil. ●

4 TYPES OF SEAFOOD TO EAT MORE OFTEN

One of the most delicious ways to up your omega-3s is to eat more seafood—yet only 1 in 10 of us eats the recommended two servings a week. Each of the following types delivers more than 1,000 mg of omega-3s in a cooked 4-ounce serving and is easy protein to work into weeknight meals.

SARDINES AND ANCHOVIES
If eating 4 ounces of these itty-bitties seems like a lot, even adding a few anchovies to a dressing or sauce or topping crackers with flaked sardines can up your count, as they're so omega-rich.

TROUT
Incredibly easy to find and quick to cook—whether you bake, pan sauté or broil it—most trout is also farm-raised in an eco-friendly way in the U.S.

SALMON
Atlantic, chinook and coho deliver more omega-3s than chum, pink or sockeye (which have about 700 to 800 mg per 4 ounces cooked). See page 92 for a quick weeknight salmon recipe.

OYSTERS
Packed with omega-3s and low in mercury, oysters are extremely versatile—roast, bake or fry them, or simply eat them raw. Four ounces equals 4 to 8 oysters, depending on size.

Look for sardines with skin and bones (which are edible), since they have more than four times as much calcium as skinless, boneless sardines.

DINNER

This five-dinner plan features foods that pack a powerful punch of health-promoting nutrients.

MEAL PLAN BY VICTORIA SEAVER, M.S., R.D., C.D.

Creamy Fettuccine with Brussels Sprouts & Mushrooms

ACTIVE: 30 min
TOTAL: 30 min

Sliced Brussels sprouts and mushrooms cook quickly and cling to the pasta in our fall version of pasta primavera. Look for presliced mushrooms to cut prep time. Serve with a tossed salad.

- **12 ounces whole-wheat fettuccine**
- **1 tablespoon extra-virgin olive oil**
- **4 cups sliced mixed mushrooms, such as cremini, oyster and/or shiitake**
- **4 cups thinly sliced Brussels sprouts**
- **1 tablespoon minced garlic**
- **½ cup dry sherry *(see Note)*, or 2 tablespoons sherry vinegar**
- **2 cups low-fat milk**
- **2 tablespoons all-purpose flour**
- **½ teaspoon salt**
- **½ teaspoon freshly ground pepper**
- **1 cup finely shredded Asiago cheese, plus more for garnish**

1. Cook pasta in a large pot of boiling water until tender, 8 to 10 minutes. Drain, return to the pot and set aside.
2. Meanwhile, heat oil in a large skillet over medium heat. Add mushrooms and Brussels sprouts and cook, stirring often, until the mushrooms release their liquid, 8 to 10 minutes. Add garlic and cook, stirring, until fragrant, about 1 minute. Add sherry (or vinegar), scraping up any brown bits; bring to a boil and cook, stirring, until almost evaporated, 10 seconds (if using vinegar) or about 1 minute (if using sherry).
3. Whisk milk and flour in a bowl; add to the skillet with salt and pepper. Cook, stirring, until the sauce bubbles and thickens, about 2 minutes. Stir in Asiago until melted. Add the sauce to the pasta; gently toss. Serve with more cheese, if desired.

SERVES 6: about 1⅓ cups each
CAL 384 / **FAT** 10G (SAT 4G) / **CHOL** 21MG / **CARBS** 56G / **TOTAL SUGARS** 8G (ADDED 0G) / **PROTEIN** 18G / **FIBER** 10G / **SODIUM** 431MG / **POTASSIUM** 597MG

INGREDIENT NOTE: We prefer dry sherry, sold with other fortified wines in your wine or liquor store, instead of higher-sodium "cooking" sherry.

Cauliflower & Kale Frittata

ACTIVE: 45 min
TOTAL: 45 min

Inspired by traditional Spanish tortillas made with potatoes, this healthy frittata recipe swaps potatoes for low-carb cauliflower. Serve it along with kale (or your favorite greens) for brunch or an easy breakfast-for-dinner.

- 2 tablespoons extra-virgin olive oil, divided
- 1 small onion, sliced
- 2 cups small cauliflower florets
- ¼ cup water
- 5 cups chopped kale
- 3 cloves garlic, minced
- 1 teaspoon chopped fresh thyme
- ½ teaspoon salt, divided
- ½ teaspoon ground pepper, divided
- 8 large eggs
- ½ teaspoon smoked paprika
- ½ cup crumbled goat cheese or shredded Manchego cheese

1. Position a rack in upper third of oven; preheat broiler to high.
2. Heat 1 tablespoon oil in a large cast-iron skillet over medium heat. Add onion and cook, stirring occasionally, until starting to brown, 2 to 4 minutes. Add cauliflower and water. Cover and cook until just tender, about 6 minutes. Add kale, garlic, thyme and ¼ teaspoon each salt and pepper; cook, stirring often, until the kale is wilted, 2 to 3 minutes.
3. Whisk eggs, paprika and the remaining ¼ teaspoon salt and pepper in a large bowl. Add the vegetables to the egg mixture; gently stir to combine. Wipe the pan clean; add the remaining 1 tablespoon oil and heat over medium heat. Pour in the egg mixture and top with cheese. Cover and cook until the edges are set and the bottom is brown, 4 to 5 minutes.
4. Transfer the pan to the oven and broil until the top of the frittata is just cooked, 2 to 3 minutes.

SERVES 4: ¼ frittata each
CAL 293 / **FAT** 21G (SAT 7G) / **CHOL** 383MG / **CARBS** 8G / **TOTAL SUGARS** 3G (ADDED 0G) / **PROTEIN** 18G / **FIBER** 2G / **SODIUM** 517MG / **POTASSIUM** 465MG

USE CAULIFLOWER INSTEAD OF POTATOES, AS IN THIS FRITTATA, AND CUP FOR CUP, YOU SAVE 106 CALORIES AND 26 GRAMS OF CARBS.

BECAUSE THIS DISH USES INGREDIENTS YOU LIKELY HAVE ON HAND, IT MAKES A GREAT CHOICE FOR A DINNER PARTY ON THE FLY.

Quick Lentil Salmon Salad

ACTIVE: 30 min
TOTAL: 30 min

In this budget-friendly salmon recipe, canned salmon tops lentils, carrots and celery. Fiber-rich lentils come in a variety of colors, and they typically cook faster than dried beans, so they're a great choice for a fast weeknight dinner.

- **¾ cup brown lentils**
- **½ cup chopped red onion plus ¼ cup thinly sliced, divided**
- **2 cloves garlic, minced**
- **¾ teaspoon salt**
- **¼ cup extra-virgin olive oil**
- **3 tablespoons red-wine vinegar**
- **¾ teaspoon dried thyme**
- **¼ teaspoon ground pepper**
- **1 15-ounce can salmon, drained**
- **1 cup carrot ribbons**
- **1 cup sliced celery**
- **4 lemon wedges for serving**

1. Bring a medium saucepan of water to a boil. Add lentils and chopped onion, reduce heat to maintain a lively simmer and cook until the lentils are just tender, 11 to 13 minutes. Drain well.

2. Meanwhile, mash garlic and salt into a paste with the side of a chef's knife (or a fork). Transfer to a medium bowl and whisk in oil, vinegar, thyme and pepper.

3. Remove any skin and/or bones from salmon; flake the salmon into a large bowl. Add sliced onion, carrot and 3 tablespoons of the dressing; gently toss to coat. Add celery and the lentils to the remaining dressing; gently stir to combine. Divide the lentils among 4 bowls, top with the salmon salad and serve with lemon wedges.

SERVES 4: 1½ cups each
CAL 341 / **FAT** 15G (SAT 2G) / **CHOL** 24MG / **CARBS** 25G / **TOTAL SUGARS** 4G (ADDED 0G) / **PROTEIN** 26G / **FIBER** 9G / **SODIUM** 723MG / **POTASSIUM** 529MG

Loaded Garden Pizz'alad

ACTIVE: 1 hr
TOTAL: 2 hr
TO MAKE AHEAD: Prepare dough through Step 2, cover the bowl with plastic wrap and refrigerate for up to 1 day. Or tightly wrap unrisen dough in oiled plastic wrap and freeze for up to 3 months. Defrost in the refrigerator overnight. Let refrigerated (or previously frozen) dough stand at room temperature for 1 hour before rolling out.
EQUIPMENT: Pizza stone
Here a garden salad packed with lettuce, bell pepper and avocado rests atop a provolone cheese pizza. And it's all drizzled with tangy homemade ranch dressing. We recommend a knife, a fork and plenty of napkins to dig into this pizz'alad! Using bread flour gives the pizza crust a crisp and sturdy structure, but all-purpose flour works well in its place.

WHOLE-GRAIN PIZZA DOUGH

- ⅔ cup lukewarm water
- 1 teaspoon instant or RapidRise yeast
- 1 teaspoon sugar
- 1¼ cups bread flour or all-purpose flour
- ¾ cup whole-wheat pastry flour or all-purpose flour
- ½ teaspoon salt

TOPPING & SALAD

- 1 tablespoon extra-virgin olive oil
- ¾ cup shredded provolone cheese
- 2 cups chopped romaine lettuce
- 1 small red bell pepper, diced
- 1 avocado, diced
- 1 cup sliced button mushrooms
- 1 cup cherry tomatoes, halved
- 1 clove garlic, minced
- ⅛ teaspoon salt
- ⅓ cup reduced-fat sour cream
- ⅓ cup buttermilk
- 1 tablespoon chopped fresh chives
- 1 tablespoon chopped fresh dill
- ½ cup alfalfa sprouts

1. To prepare pizza dough: Stir water, yeast and sugar in a large bowl; let stand until the yeast has dissolved, about 5 minutes. Stir in bread flour (or all-purpose flour), whole-wheat flour (or all-purpose flour) and salt until the dough begins to come together.
2. Turn the dough out onto a lightly floured work surface. Knead until smooth and elastic, about 10 minutes. Place the dough in an oiled bowl and turn to coat.
3. Cover the bowl with a clean kitchen towel; set aside in a warm, draft-free place until the dough has nearly doubled in size, about 1 hour.
4. To bake pizza and prepare topping & salad: Position rack in lower third of oven, place a pizza stone on the rack and preheat oven to 500°F. Let the stone heat at 500° for 20 minutes.
5. Roll pizza dough on a lightly floured surface into a 12- to 14-inch circle (depending on the size of your stone). Transfer to a lightly floured pizza peel (or inverted baking sheet).
6. Brush the dough with oil and sprinkle cheese on top. Slide the pizza onto the hot stone. Bake until golden and crispy, 8 to 10 minutes.
7. Meanwhile, toss lettuce, bell pepper, avocado, mushrooms and tomatoes in a large bowl.
8. Mash garlic and salt together with a fork in a small bowl to make a coarse paste. Stir in sour cream, buttermilk, chives and dill until combined.
9. When the pizza is done, transfer to a large cutting board and let cool for 5 minutes. Drizzle 2 tablespoons of the dressing over the pizza. Mound the salad in the middle and drizzle with the remaining dressing. Top with alfalfa sprouts and serve immediately.
SERVES 5: ⅕ pizza each
CAL 370 / **FAT** 15G (SAT 5G) / **CHOL** 16MG / **CARBS** 48G / **TOTAL SUGARS** 4G (ADDED 1G) / **PROTEIN** 13G / **FIBER** 7G / **SODIUM** 457MG / **POTASSIUM** 525MG

Mexican Cabbage Soup

ACTIVE: 20 min
TOTAL: 20 min
TO MAKE AHEAD: Prepare through Step 3 up to 2 days ahead. Refrigerate vegetables, chicken and dressing separately. Toss just before serving.

Based on a popular weight-loss plan, this healthy cabbage soup recipe gets tons of flavor and a metabolism-boosting kick from spicy chiles.

- **2 tablespoons extra-virgin olive oil**
- **2 cups chopped onions**
- **1 cup chopped carrot**
- **1 cup chopped celery**
- **1 cup chopped poblano or green bell pepper**
- **4 large cloves garlic, minced**
- **8 cups sliced cabbage**
- **1 tablespoon tomato paste**
- **1 tablespoon minced chipotle chiles in adobo sauce**
- **1 teaspoon ground cumin**
- **½ teaspoon ground coriander**
- **4 cups low-sodium vegetable broth or chicken broth**
- **2 15-ounce cans low-sodium pinto or black beans, rinsed**
- **¾ teaspoon salt**
- **½ cup chopped fresh cilantro, plus more for serving**
- **2 tablespoons lime juice**
- **Crumbled queso fresco, nonfat plain Greek yogurt and/or diced avocado for garnish**

1. Heat oil in a large soup pot (8-quart or larger) over medium heat. Add onions, carrot, celery, poblano (or bell pepper) and garlic; cook, stirring frequently, until softened, 10 to 12 minutes. Add cabbage; cook, stirring occasionally, until slightly softened, about 10 minutes more. Add tomato paste, chipotle, cumin and coriander; cook, stirring, for 1 minute more.

2. Add broth, water, beans and salt. Cover and bring to a boil over high heat. Reduce heat and simmer, partially covered, until the vegetables are tender, about 10 minutes. Remove from heat and stir in cilantro and lime juice. Serve garnished with cheese, yogurt and/or avocado, if desired.

SERVES 8: 1½ cups each
CAL 167 / **FAT** 4G (SAT 1G) / **CHOL** 0MG / **CARBS** 27G / **TOTAL SUGARS** 7G (ADDED 0G) / **PROTEIN** 6G / **FIBER** 9G / **SODIUM** 408MG / **POTASSIUM** 624MG

EatingWell

Editor-in-Chief Jessie Price
Creative Director James Van Fleteren

Superfoods

Editorial Director Kostya Kennedy
Editor Courtney Mifsud
Designer Dean Abatemarco
Photo Editor Robert Conway
Writers Karen Ansel, Laura Beil, Katie Cavuto, Sunny Sea Gold, Joyce Hendley, Brierley Wright Horton, Kerri-Ann Jennings, Emily Joshu, Emily Lachtrupp, Lori Longbotham, Jessica Migala, Holly Pevzner, Jessie Price, Gretel H. Schueller, Victoria Seaver, Emily Sohn, Cassidy Tawse-Garcia, Lisa Valente
Copy Editor Ben Ake
Reporter Ryan Hatch
Premedia Trafficking Supervisor Randy J. Manning
Color Quality Analyst Tony Hunt

MEREDITH SPECIAL INTEREST MEDIA
Vice President & Group Publisher Scott Mortimer
Vice President, Group Editorial Director Stephen Orr
Vice President, Marketing Jeremy Biloon
Executive Account Director Doug Stark
Director, Brand Marketing Jean Kennedy
Associate Director, Brand Marketing Bryan Christian
Senior Brand Manager Katherine Barnet

Editorial Director Kostya Kennedy
Creative Director Gary Stewart
Director of Photography Christina Lieberman
Editorial Operations Director Jamie Roth Major
Manager, Editorial Operations Gina Scauzillo

Special thanks Brad Beatson, Melissa Frankenberry, Samantha Lebofsky, Joseph McCombs, Kate Roncinske, Laura Villano

MEREDITH NATIONAL MEDIA GROUP
President, Meredith Magazines Doug Olson
President, Consumer Products Tom Witschi
President, Chief Digital Officer Catherine Levene
Chief Revenue Officer Michael Brownstein
Chief Marketing & Data Officer Alysia Borsa
Marketing & Integrated Communications Nancy Weber

SENIOR VICE PRESIDENTS
Consumer Revenue Andy Wilson
Corporate Sales Brian Kightlinger
Direct Media Patti Follo
Research Solutions Britta Cleveland
Strategic Sourcing, Newsstand, Production Chuck Howell
Digital Sales Marla Newman
The Foundry Matt Petersen
Product & Technology Justin Law

VICE PRESIDENTS
Finance Chris Susil
Business Planning & Analysis Rob Silverstone
Consumer Marketing Steve Crowe
Brand Licensing Steve Grune
Corporate Communications Jill Davison

Vice President, Group Editorial Director Stephen Orr
Director, Editorial Operations & Finance Greg Kayko

MEREDITH CORPORATION
President & Chief Executive Officer Tom Harty
Chief Financial Officer Joseph Ceryanec
Chief Development Officer John Zieser
Chief Strategy Officer Daphne Kwon
President, Meredith Local Media Group Patrick McCreery
Senior Vice President, Human Resources Dina Nathanson

Chairman Stephen M. Lacy
Vice Chairman Mell Meredith Frazier

meredith MPA THE ASSOCIATION OF MAGAZINE MEDIA

Copyright © 2019 Meredith Corporation • 225 Liberty Street • New York, NY 10281

All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher, except by a reviewer, who may quote brief passages in a review.

For syndication requests or international licensing requests or reprint and reuse permission, email syndication@meredith.com.

Printed in the USA.

Photo Credits

Front and Back Covers
Floortje/E+/Getty Images (10); nuts: Kevin Summers/Photographer's Choice/Getty Images; blueberries: CQ Young/Getty Images; orange: iStock/Getty Images; tomato: Calysta Images/Getty Images; avocado: baibaz/Shutterstock; egg: Bozena Fulawka/Shutterstock; coffee: Classen Rafael/EyeEm/Getty Images; brussels sprouts: iStock/Getty Images

Title Page
P. 1 Jason Donnelly

Contents
PP. 2/3 Trinette Reed/Stocksy

Introduction
P. 5 Juan Moyano/Stocksy
P. 7 iStock/Getty Images
P. 8 Good Vibrations Images/Stocksy

Chapter One: Disease Fighters
PP. 10/11 iStock/Getty Images
P. 12 Sandra Dionisi/Theispot
P. 15 Eric Wolfinger Photography
P. 16 Carmen Martinez Palma/Stocksy
P. 19 John Block/Getty Images
P. 21 Harald Walker/Stocksy
P. 23 Harald Walker/Stocksy
P. 24 Carin Krasner
P. 25 Moment/Getty Images
P. 26 iStock/Getty Images
P. 27 Andy Lyons
P. 28 Nadar Khouri/Getty Images
PP. 30/31 Devon O'Brien
P. 32 Katie Webster
P. 33 Blaine Moats
P. 34 Devon O'Brien
P. 35 Jason Donnelly

Chapter Two: Your Healthiest Mealtime
PP. 36/37 Trinette Reed/Stocksy
P. 39 Christian Tisdale/Stocksy
P. 40 Jeff Wasserman/Stocksy
P. 41 Ali Harper/Stocksy
P. 43 iStock/Getty Images
P. 45 iStock/Getty Images
P. 46 Digital Vision/Getty Images
P. 48 iStock/Getty Images
P. 51 Andy Lyons
P. 52 iStock/Getty Images
P. 54 timsa/iStock/Getty Images
P. 55 Kritsada Panichgul
P. 56 Andy Lyons
P. 57 iStock/Getty Images
PP. 58/59 Jason Donnelly
P. 60 Scott Morgan
P. 61 Dominic Perri
P. 62 Sylvia Fountaine
P. 63 Katie Webster

Chapter Three: A Lifestyle That Lasts
PP. 64/65 Cavan Images/Getty Images
PP. 66/67 Peter Frank Edwards
PP. 68/69 Panuvat Ueachananon/Shutterstock
P. 70 Jim Westphalen
P. 73 Brie Passano
P. 74 Jacob Fox
P. 75 AXL Images/Gallery Stock
P. 76 Peter Krumhardt
P. 79 Romulo Yanes
P. 80 Natasa Mandic/Stocksy
P. 83 iStock/Getty Images
P. 85 Moment Open/Getty Images
P. 86 Juan Moyano/Stocksy
P. 88 Kaat Zoetekouw/Stocksy
P. 89 Juan Moyano/Stocksy
P. 90 Erin Kunkel
P. 91 Karla Conrad
P. 92 Blaine Moats
P. 93 Jim Westphalen
P. 94 Devon O'Brien
P. 96 Leigh Beisch

Snow-White Superfoods

Giving us healthier hearts and cancer-fighting powers, pale produce is more potent than it appears.

BY KATIE CAVUTO, M.S., R.D.

Vibrant fruits and vegetables have standout appeal, yet recommendations to "eat the rainbow" can exclude one underappreciated category: white fruits and vegetables. They boast a variety of flavors and noteworthy aspects of nutrition, according to research published in *Advances in Nutrition*. The researchers pointed out that many nutrients that give fruits and veggies their health benefits are not always colorful.

TURNIPS, AS MEMBERS OF THE CRUCIFEROUS-VEGETABLE FAMILY, BOAST CANCER-FIGHTING PROPERTIES. THEY'RE ALSO HIGH IN NITRATE, WHICH MAY DECREASE BLOOD PRESSURE.

PEARS MAY HELP MANAGE PREDIABETES. LAB TESTS SHOW THAT PEAR ANTIOXIDANTS PREVENT RAPID CARB DIGESTION, WHICH CAN CAUSE BLOOD-SUGAR SPIKES.

CAULIFLOWER IS AT THE FOREFRONT OF CANCER RESEARCH. IN LAB TESTS, A COMPOUND FROM THIS CRUCIFEROUS VEGGIE KILLED 75% OF CERVICAL-CANCER STEM CELLS IN 24 HOURS.

A 2014 STUDY SHOWED THAT, IN THE LAB, GARLIC EXTRACT MAY BE ABLE TO TREAT NEW ANTIBIOTIC-RESISTANT STRAINS OF GERMS.

YOU & ALMONDS

VS. THE FIVE LONG HOURS BETWEEN BREAKFAST AND LUNCH.

© 2019 Almond Board of California.
All rights reserved.

Don't let the midmorning slump slow you down.
With 6 grams of natural protein, there's nothing you and almonds can't do.

OWN YOUR EVERYDAY.
EVERY DAY.

california almonds®
Almonds.com

They Do It All

Well, almost. Certain foods are brimming with health-promoting and disease-fighting nutrients and benefits. Making these superfoods a daily, and delicious, part of your lifestyle has never been easier.